The Commodore Magazine For Commodore Users

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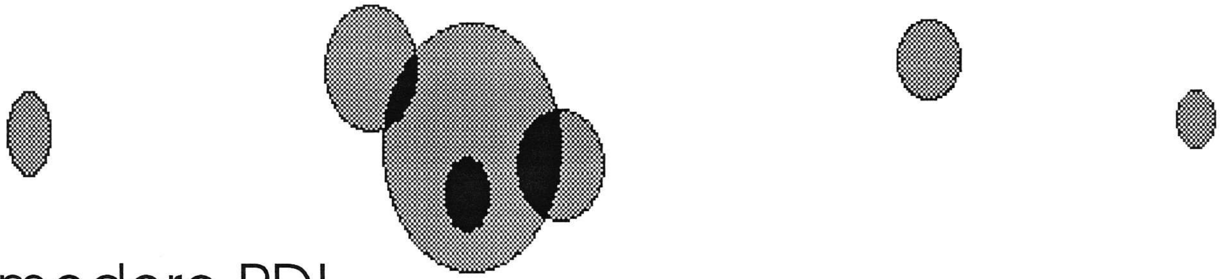
dieHard

the Flyer for commodore 8bitters

P.D. Space/Time Continuum



Commodore PD!

Public Domain --
Yesterday, Today
And Tomorrow!!

Stereophonic 64!

Archaic Computer looks at the
Stereo SID Player!

1526!?!?

Gil Parrish takes a look at
a wonderful second printer!

Expanding In 4D!

Add four-way cursor keys
to *your* computer!

Dr. Wuth?

BBS stuff, and *more!!!*

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Spotlight On *LOADSTAR*

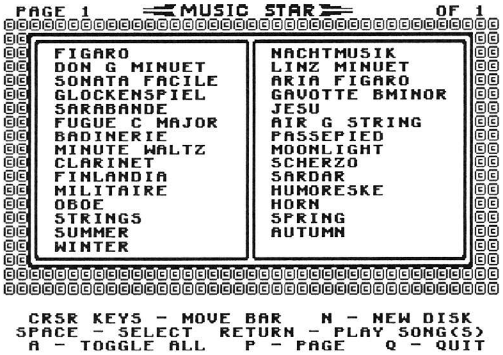
by Brian L Crosthwaite

Ok, SIDsters -- it's time to reminisce, it's time to see the future, it's time to relax to the music of *LOADSTAR*! Dave Marquis, the master SID Musician Extraordinaire, has been compiling SIDs for *LOADSTAR* for many years.

If you've ever seen *LOADSTAR*, then chances are really great that the music you've heard was from Dave Marquis. **The Complete Dave** features **Music Star**, a Knees Calhoon Inspiration. **Music Star** allows you to play all the songs in this fantastic collection of music. *Figaro, Jesu, Moonlight* are just some of the file names you'll see. While the names are brief the arrangements are the complete arrangements as they have appeared on *LOADSTAR*.

While the music is in the PD and the arrangements are Dave Marquis', *LOADSTAR* will allow you to use them in your own programs, as long as you give them their due credit. All the music is in **Music Star** format.

This is yet another amazing collection from the annals of *LOADSTAR*. *LOADSTAR* has recently celebrated their 100 issue -- 24 issues ago! They have quite a few collections to offer. From GEOS, to graphics, to games.



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PAGE 1         MUSIC STAR            OF 1

   FIGARO                NACHTMUSIK
   DON G MINUET          LINZ MINUET
   SONATA FACILE         ARIA FIGARO
   GLOCKENSPIEL          GAVOTTE BMINOR
   SARABANDE             JESU
   FUGUE C MAJOR         AIR G STRING
   BADINERIE             PASSEPIED
   MINUTE WALTZ          MOONLIGHT
   CLARINET              SCHERZO
   FINLANDIA             SARDAR
   MILITAIRE             HUMORESKE
   OBOE                  HORN
   STRINGS               SPRING
   SUMMER                AUTUMN
   WINTER

  CRSR KEYS - MOVE BAR     N - NEW DISK
 SPACE - SELECT  RETURN - PLAY SONG(S)
  A - TOGGLE ALL    P - PAGE    Q - QUIT
```

The New Face Of *LOADSTAR*

LOADSTAR's one hundred twenty-fourth issue has a new face! Actually, the old operating system was rather a bear to compile. Jeff and Fender were baffled by parts of it, because those who wrote it have moved to other worlds. So Jeff Jones, *LOADSTAR*'s Associate Editor has created a new one. I put it through many of its paces with no crashes. A few things are not in the new system yet, to be implemented over time. One thing, that caught me off guard, that I like about the new system, is that it doesn't renumber your 1851 if you have the three and a half inch disk version of *LOADSTAR*.

I love the opening picture for this issue. It is a monitor in front of a window through which the Lunar landscape can be seen. On the monitor is issue number 810 of *LOADSTAR*!

Hungry? James T. Jones has cooked up and compiled quite a few recipes for this issue. (Keep in mind, that this will be a back issue when you read this. As Fender Tucker mentioned in his *Diskovery*, we too have two months lead time.) Walt Harned looks at **GeoCanvas** and Roger Detaille reviews **Geos Utilities**. A fitting spot on the work of Nate Fiedler. Newsletter Naniskad is LOADSTARs annuall user group round up. And Brainware explodes with more puzzles and brain wrenchers than ever!

In this issue, Jack Blewitt launches Public Forumware with the topic of Commodore Paranoia. This is an issue not to be missed!

```
READY.
■
```

Only On The *Spinner*!

by Brian L Crosthwaite

Those who have not seen the Spinner lately will be pleased to know that there is now an operating system. The Spinner Operating System -- or SOS as Scot has dubbed it, long before its existence -- will run on just about any **commodore** 8-bit computer. It is too large to run on an unxpanded VIC20, and can't run PET programs from the menu yet, but it does work. And fairly well. You can read all the sequential files on disk, as well as load the program menus for the computer it is running on. There are some things we'd like to add to it.

For instance, the programs don't have the return code added, but we expect to streamline a process to do that so that every program, once exited, will return you to the SOS.

If you do manage to get your VIC20 to load and run the SOS, the SOS will load the VIC20 header program. This program is the VIC's own custom program.

Enough on the SOS already! --

Ok, things are running mega late this year! No one around here seems to know what is going on the *Spinner*. This list will by no means be complete. I do know that the **Stereo Player 10.3** by Mark Dickenson is the feature program this time 'round. All the *PRG*, *Basic BASIC* and anything else in the *Flyer* will also be on the *Spinner*.

Computer Joke for the plus/4 will bring a laugh or a grumble, depending upon your victums sense of humor.

Switchbox for the 128 is a rather interesting game that not only has an exceptional usage of keyboard graphics, this one will make you think. A stratagy tinker for all ages.

Take your C64 to the stars, or at least take a look at the sky -- even on a cloudy night! This disk is packed, so don't miss it!

To load programs from the *Spinner*, all you gotta do is type:

```
LOAD"SOS",8 <RETURN>
```

Then at the READY prompt type:

```
RUN <RETURN>
```

And you're off!

The *Spinner* is $5.00 and that includes postage. The *Spinner*, P.O.Box 392, Boise, Idaho, 83701-0392. $45 brings the *Spinner* to your door year round!

```
READY.
■
```

CMD ad
do NOT use this page!

View From The Underground

By

Brian L Crosthwaite

THANKSGIVING

Dear *dieHard* reader:

Hello! We're back!!

As you know, *dieHard* has not been published since October of 1994. Mia had a difficult pregnancy and I had to not only assume the role as caretaker, but I had to take on lots of other responsibilities that I hadn't been doing before. And, we launched a new magazine, *The Sewing Room.*

On December 20, 1994 Natasha was born! Both she and Mia are fine. Natasha comes to work with me on Mondays, Wednesdays and Fridays in the morning to help with the production of *dieHard.*

The Sewing Room is doing well. Better than expected! But, there were some unexpected expenses and that's why *dieHard* publishing came to a grinding halt. Mia is a dieHard home sewer, so *The Sewing Room* is a dream come true for her. But *The Sewing Room* also ensures the continued survival of *dieHard.* We no longer have to worry about *dieHard* making enough money to support the office and our family, we've transferred that worry to *The Sewing Room.* Now we can just do *dieHard* because we love doing it, even if the profit margin is very small!

I want to thank all of our wonderful subscribers for your patience and understanding as we worked through this difficult time.

It's because of the loyalty and dedication of dieHards like you, that keeps *dieHard* alive. I want to personally thank you for the best job I could ever have because you gave it to me. It is you, the *dieHard* reader, that makes *dieHard* what is it is.

For the past two and a half years, I've been putting out *dieHard.* Much of the time it has been a one man show. Within the last couple of months, the *Spinner* has gone from companion disk to a full fledged magazine on disk!

It's pretty clear we're not keeping up. Partly because we never could and partly because after two years of 100 hour weeks (14 hour weekdays plus weekends), I just can't keep the pace up. I love *dieHard* and I love the **commodore**, so we all sat down and brainstormed on how we could keep *dieHard* going without me losing my sanity. Because of the price and circulation of *dieHard,* we can't afford more staff, so we decided to decrease the fequency to bi-monthly -- 6 times a year instead of 10. This will also cut our printing costs, which have been another concern for quite some time. It will give us enough time to produce a high quality magazine, meet our deadlines and maintain our sanity.

What does this mean to you, the readers of *dieHard*? Your subscription will expire at the same time and you might recieve fewer than 10 issues for the subscription you purchased. However, the magazine you will get will be timely and better quality.

This will also help us counter the rises in printing costs we have encountered these last few months. It will also prevent those issues coming two months late. I thank you for your understanding.

Last month, the *Spinner* had some fantastic art by John Green. In the *Flyer* on the last page, we ran a 4-Pass-8-Bit-print-to-film version of one of the pictures. Actually, we didn't print it to film. We did use the **K-Vert** program written in 1984 to do color separation on a little-olde C64. The four color seps were saved to disk, run into GEOS via **Import Runner** and dumped to our laser printer via **geoPubLaser 1.8**. The high-tech print shop, using state of the art 90s equipment, took it to film and put the four-over-four color picture into the magazine as it appeared!

Ok, I have to step aside for just a minute and point these things out again, 'cos it's 2cool -- 4 color separation program written in the early 80s. High-tech, modern, state-of-the-art computer technology output! (I don't think I'm going to get over this one!!)

Our SOS {Spinner Operating System} is becoming more and more functional every month. No more paper docs to lose!

```
READY.
■
```

P.D. Space/Time Continuum

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The Commodore Magazine For Commodore Users

dieHard

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Commodore PD!
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VIC1526!?!?
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Add Four-Way Cursor Keys
To YourComputer!

Dr. Wuth?
BBS things, and more!

Fonts used in this issue:

GEOS:

LW_Roma

LW_Barrows

Cory

Commodore

LW_Galey

LW_Giannini

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{LW_Shattuck}

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INPUT;READER$

After reading your review of the CMD HD, I felt compelled to bring several facts to your attention regarding changing partitions with this device.

First, the CMD HD manual contains a one-line command for changing partitions on pp. 9-10.

Second, the CMD HD was supplied with a disk which contained GEOS files which allow one to change partitions under the GEOS operating system.

Third, if one purchased **Gateway** from CMD, the program enables one to change partitions.

I have had my CMD HD since April 1994 and have never had to use the procedure you described to change partitions. Your article, although factual on this issue, failed to present the whole truth to your reader about this product. In doing so, I feel you did CMD and your readers a disservice.

Please read the manual and present the different procedures available for changing partitions on the CMD HD. -- Clark Alexander, via Fax.

Right you are! But only half right. What you read, if you will look at the paragraph before the review, was a follow-up. The HD was actually reviewed in the June '94 issue, where all the things you point out as missing appear. The finished file that contained a rather thorough review got lost. It was not discovered that the wrong file was poured into the final document until the masters for the print shop were printed. We felt this did neither the readers nor CMD any justice. So we added the missing info as a short addition to REVIEW!

Address your comments, concerns, recipes, blank checks, cases of Guinness, treasure maps and reader input to:

INPUT;READER$
P.O.Box 392
Boise, ID, 83701-0392

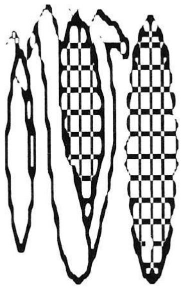
READY.
■

dieHard the Flyer for commodore 8bitters is written and compiled on **commodore** 8bit equipment. It is then typeset on a C128D computer using **geoPublish**. The system consists of a **commodore 128D** personal computer with an internal 1571, external HD-85, and FD-4000 disk drives, a **commodore MPS 1270** inkjet printer with a CARD?+G parallel interface, an HP LaserJet 4ML with CMD's geoCable compatible cable, a **commodore 1670** modem, a CMD RAMLink with 1 Meg RAM, a **commodore Datassette**, M-3 mouse, AMIGA 1080 80/40 column RGBI/composite monitor and a **commodore model 1701** 40 column monitor. Our masters are printed inhouse on the HP LaserJet 4ML with **GEOPUBLASER1.8**. And the magazine you now hold is printed by Treasure Valley Litho here in Boise.

Rarities

by R. Scot Derrer

Autumn Glory



User Groups

More additions and changes to our ever expanding list of active **commodore** user groups.

```
AWest/CWest
3462B 17th Street
San Francisco, CA 94110
```

The following are corrections and change of address notices:

```
Suncoast Bytes Computer Club
PO Box 721
Elfers, FL 34680-0721
```

```
READY.
■
```

Expandin

Independent Four-Way Cursor Keys for the **commodore** 64

by Donald Maxwell

One of the first things we all discovered about the **commodore** 64 was that there are only two cursor keys.

Oh, sure, we eventually got used to using two fingers to do what one finger does on any other computer. But I've never met anyone who got to LIKE it. I never did, anyway. So, after years of jabbing with two fingers to move the cursor upward or leftward, I finally developed a way to give my 64 four separate cursor keys. It works so well that I'm sure you'll want to try it on your own C64 or C128.

The modification adds four more cursor keys, arranged in the inverted "T" configuration that is now standard on most computers, making the keyboard work as it should have from the very beginning. The original two cursor keys remain intact, in case you feel like using them, too.

The project is relatively simple. It takes about two hours and requires only simple hand tools, some drilling, and a little easy soldering. The parts will probably cost between $5 and $20, depending on where you get them.

How The C64 Keyboard Works

First, a little theory. When you depress any one of the C64's keys -- including the cursor and SHIFT keys -- you're closing a switch that the circuit opens again. So in electrical language, each key is a *single-pole, momentary-on* switch. (Single-pole means there's an off-on switch in the middle of one wire. Momentary-on means it's on only while you're pressing it.)

Similarly, when you depress a key while holding down a SHIFT key, you're turning on two separate circuits at the same time. This is, in effect, a *double-pole, momentary-on* switch.

So to move the cursor down or right, you momentarily turn on a single-pole switch. And to move the cursor up or left -- which requires you to press a cursor key and a SHIFT key -- you turn on a double-pole switch. That much is simple enough.

Inside the C64, however, things are somewhat more complicated. The keyboard has 66 keys, but only 18 wires connect it to the motherboard. This means each wire is used for several keys. You can understand how this works by visualizing a matrix formed by nine parallel horizontal wires crossing nine vertical wires. Each intersection in the matrix represents a different key on the keyboard. (Actually, a number of intersections are unused. Also, there are only 64 electrically different keys in the C64, since all three SHIFT keys are connected in parallel.) So when you press a key, in effect you're connecting two wires where they cross in the matrix.

Materials

The important thing, as far as this project is concerned, is that we can't just connect a cursor key switch and a SHIFT key to each other and expect the computer to work at all normally. Instead, we have to have two independent switches on at the same time--meaning that at least two of the new cursor switches must be double-pole switches. (That's DP for short).

The other two switches can be single-pole (SP) because they need to close only one circuit each.

Unfortunately, Radio Shack does NOT have suitable switches in their catalog, so you'll have to turn to a regular electronics supply store. A good one should stock the switches you need, but you might have to order them. Here's what to look for: four *Momentary-On Push Switches*. At least two must be double-pole. All four switches should be miniature ones, small enough to fit into the computer. Most switches this size are about half an inch wide and fit through a 1/4 inch mounting hole.

Ideally, the switches should have a soft feel, like the C64's own keys, and they should also have caps that match the 64's keycaps. Unfortunately, however, ideal switches may be hard to find. In fact, I've settled for "click-on" switches with uncomfortable little buttons, onto which I snapped caps from a surplus **commodore** 16 keyboard that I bought at Radio Shack. So the new cursor keys look as if they were made in West Chester, but they click slightly when depressed -- not ideal, but a reasonable compromise.

You may be able to find the ideal switches. But for simplicity's sake, I'll tell you exactly which ones I used: "Momentary On or Off Snap-Action Push Button DPDT". Cat. No, 35-451, GC Electronics, Rockford, IL 61101.

The DPDT means *Double-Pole, Double-Throw*. I used these for all four switches, mainly because the local shop stocks them and they match each other. Of course, the DT isn't necessary; ST is all you need. Also, for the down and right cursor switches, you could use SPST or SPDT switches just at well.

You'll also need a few feet of hook-up wire, either solid or stranded. And you'll need these tools:

Medium-size Phillips screwdriver.
Small straight screwdriver.
Long-nose pliers.
Small soldering iron (25-35 watts) and rosin-core solder. (NEVER use acid-core solder in electrical work.)
Drill, with 1/4" bit.
Sharp knife.

g In 4D!

Ohmmeter, or another continuity checker, such as a flashlight bulb and a battery connected together with bits of wire.

Opening Up The Computer

These instructions are specific to the C64. The C-64C is almost identical; and the C128 is similar enough so you should have no trouble figuring out what to do. I suggest that you read all of the instructions before you begin, then follow them by the numbers, checking off the steps as you go.

1. Just to be sure, discharge yourself by touching something metal -- a grounded lamp, or the like.
2. Disconnect everything from the computer and turn it upside down.
3. Remove the three Phillips-head screws that hold the case together.
4. Turn the computer right side up again.
5. Separate the two halves of the case at the front and spread them apart a few inches.
6. Unplug the little connector for the power LED and the larger connector for the keyboard wires. (You don't need to worry about which way these go back together.)
7. Set the bottom half of the computer aside. (By the way, this is the only part that might be affected by a static charge. Nothing in the top part of the computer is particularly vulnerable.)
8. Remove the eight Phillips-head screws and separate the keyboard from the case.
9. Unsolder the two wires from the SHIFT-lock switch. (Heat each connection and pull the wire out with the pliers.)
10. Remove the tiny screws that hold the circuit board onto the bottom of the keyboard. My C64 has 24 screws. (They're hard to find on the floor, so you'd better put them into a ziplock bag or a little bottle or box that won't get spilled.)
11. Remove the circuit board from the keyboard.

Note that the solder connection for each wire is identified with a letter or number. All of the C64 keyboards I've seen use the letters "A" through "I" and the numbers "0" through "8". However, you should double check to be sure which connections go to which keys.

Mounting The Switches

There are several possible locations for the new cursor keys. Depending on your own taste and the actual configuration of your keyboard, you might decide to put them someplace other than where I recommend. Think about it carefully before you start drilling.

Study the underside of the keyboard. Note that each key occupies a square about 3/4" (19 mm) on a side. (See Photo 1.) Note, too, the locations of the circuit board mounting screws. Between the typing keys and the function keys there is empty space, and you could put the new switches there. However, that would probably require you to remove at least one of those mounting screws, which might cause erratic key action. (I haven't tried it, however.) For structural, aesthetic, and ergonomic reasons, I suggest that you put them lower on the keyboard, closer to the operator.

The new switches are best mounted directly on the upper half of the computer case. This requires the least amount of drilling and cutting. Photo 2 shows where the four holes must be drilled in the case.

12. Drill the "cursor up" hole to the right of the spacebar, 3/4 inch from the center of the C64's horizontal-cursor key. (Check first to be sure the body of the switch will fit properly in the under side of the keyboard.) Drill the other three holes 3/4 inch apart in a line that is 3/4 inch in front of the "cursor up" hole. On the C64, this is smack on the groove that runs across the front of the computer.
13. Mount all four switches in the case. If you're going to add custom caps to the switches, this is a good time to try them on to be sure they will clear the upper surface of the case.

Photo 1 shows where the keyboard must be cut away to accommodate the new "cursor up" switch. The other three switches should fit nicely between the case and the front mounting flange of the keyboard. Photo 3 shows the four new switches installed in the case.

14. Temporarily reassemble the upper parts of the computer to be sure that everything fits properly. The "cursor up" switch should fit through the hole in the keyboard with plenty of room to spare, as three wires will also have to pass through that hole. The other three switches should clear the keyboard when it is mounted in the case. The "cursor up" switch should not interfere with the circuit board when it is mounted on the keyboard. If necessary, cut away the keyboard mounting flange on the circuit board to ensure that everything fits. Then tighten the switches onto the case.

Wiring

15. Solder jumper wires between the switch terminals. See Figure 1 for the schematic diagram and Figure 2 for a wiring diagram.
16. Cut four wires about 10 inches long (25 cm) and solder one end of each wire to the

appropriate switch terminals. These wires will connect the switches to the keyboard. These four long wires all can be connected to the outside of the circuit board. But only one of them has to be. Because it's easier to solder them onto the inside of the board, you might want to identify the three wires that go to B, 2, and 3 in the long row of solder connections and pass them through the hole in the keyboard beside the "cursor up" switch. (See Photo 3.)

The connection table below shows which wires are connected to the cursor and SHIFT keys on all of the C64s I've examined. Before you solder the long wires to the circuit board, be sure you have checked where to connect them on your keyboard. Use an ohmmeter or a flashlight bulb and battery to be sure which keyboard wires are connected to the cursor and shift keys. (SHIFT-LOCK and both SHIFT keys are all electrically identical.)

Connection Table	Key Connections
SHIFT & SHIFT LOCK	B and 3
Vertical cursor	H and 3
Horizontal cursor	H and 2

17. Pass the three long wires through the new hole in the keyboard (if that's the way you're going to do it).

18. Solder the four long wires to the appropriate connections on the circuit board. (See the Connection Table, above.)

19. Reassemble the computer. Take care that no wires interfere with the operation of any keys or are pinched between parts. Remember to re-connect the two wires to the SHIFT LOCK switch before you close up the case.

Now you're ready to try it. The new cursor switches should move the cursor in the directions you expect, and all of the standard keys should work normally (because you haven't done anything to them at all). If not, then you will need to take everything apart again and re-check your wiring.

You might notice that pressing two of the new cursor keys at the same time may cause an unwanted character to appear on the screen. This is not a problem. You can do the same thing on an unmodified 64 by depressing both of the standard cursor keys and the SHIFT key all at once. It's just easier to make the same electrical connections with the new independent cursor keys.

Custom Cursor Key Caps

You may be satisfied with the caps of your new cursor keys just as they are. If not, here are some suggestions.

A very nice keycap comes on a switch sold by Radio Shack (catalog number 275-1555). This is a round cap that snaps perfectly onto the cursor switch I use. It feels good; and even though it doesn't match the C64 keys, it looks very professional. Also, the rectangular caps from Radio Shack's 275-1565 switch may work for you. They snap on, too, but you'll probably have to glue them onto the shafts of the switches to keep them from twisting.

Of course, you can also make your own caps using, for example, "Heavy-Duty Cushion Feet" (Radio Shack 64-2342). Just drill a hole in the bottom of a "foot" and press it onto the shaft of the switch.

The most elegant keycaps of all, however, come right from Commodore Business Machines. As mentioned above, I use the four cursor keycaps from one of the surplus C-16 keyboards which some electrical parts suppliers sell. (A good source for these keyboards might be the local HAM radio group.) These keycaps snap onto the switches with just a little relieving of the holes inside the caps. They're the same shape and size as C64 keys, and they have directional arrows already printed on them. (See Photo 4.) If you're not particular about what is marked on your cursor switches, one C-16 keyboard has enough keycaps for at least twelve C64 modifications. (By the way, the C-16 keyboard itself will NOT work with the C64 or 128, because the connection matrix is radically different.)

Once you've rounded up the parts, it shouldn't be more than a couple of hours before your C64 has four-way independent cursor keys, just like the big guys. And you'll soon wonder how you got along all that time without them.

```
READY.
■
```

dieHard

the Flyer for commodore 8bitters

Each issue of *dieHard* comes packed with information to make your **commodore** work better for you and help keep you connected to other **commodore** dieHards. Here's what you'll get with your subscription to *dieHard*:

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REVIEW!

Battery Backed Unit

Performance Peripherals, Inc.

reviewed by Jerry Hill

When I woke up today, the sun was shining, the birds were singing, the coffee smelled great, and I knew I was going to have to reload my REU once again. Everything was perfect except for that one teeny-weeny little detail.

Then, in my mailbox, much to my surprise, there was a package. I eagerly ripped it open. Almost too eagerly. Almost tore those docs right in half. There, nestled in the box, my eyes beheld a jewel of a sight. My Battery Backup Unit (BBU) from Performance Peripherals.

I ran to my computer and started to plug the thing in. I stopped. I thought to myself, "Just this once, I'm going to read the docs *first.*" Good thing, too. Two very important warnings are contained therein, and you have to read the whole seven pages of documentation to find them.

Warning #1: "Never insert an REU into nor remove an REU from the expansion port of the BBU with the computer on or with the battery connected or with the BBU power supply connected, because irreparable damage may result."

Now that I've made things sound really cryptic, I suppose I ought to explain what the BBU is and what it will do for you.

The BBU is a battery backup interface for **commodore 1700**, 1764, 1750, 1750 Clone, Super Clone and GEORAM 512 RAM expansion units. It is a little black box that plugs into the cartridge port with a slot to plug your RAM expander into. There is a red power LED and a green activity LED to let you know things are working, along with a reset switch. In the box, you will find a 9-volt DC power supply and a 4 D-cell battery unit. Batteries, of course, are not included. Each plugs into the appropriately labeled slot on the BBU. You should also find a BBU Utilities Disk.

What the BBU does is this: when power is turned off to the computer, the continuous 9-volt power supply continues to power the attached RAM unit. What this means to the user is the convenience of having the RAM unit loaded and ready to go every time the computer is booted. If you've been through the experience of reloading the REU every time the computer is turned on, the benefits of the BBU are immediately obvious. There is an even greater benefit, though.

The 9-volt continuous power supply is great, but what happens when the power goes out? Just try rebooting GEOS then! Fortunately, there is help on this front. The battery pack is designed to supply power to the REU in the event of power failure. Should you plug in the battery pack (it is optional, the BBU will work without it), the red LED turns into a BATTERY LOW indicator. There is no drain on the batteries during normal usage, but be aware that if the 9-volt power supply is interrupted for any reason, the batteries will drain. In other words, don't plug the 9-volt into a power-strip if the strip gets turned off all the time.

Rebooting the computer is a fairly simple process, and it is laid out in a straightforward and understandable manner in the manual. The utilities disk contains several RBOOT programs for rebooting various GEOS configurations as well as a program to test your REU RAM.

Another handy program on the disk is Make Auto Reboot for the 128. Should you turn on the computer with the GEOS 2.0 128 System disk in the drive, GEOS will autoboot and all the files currently in the BBU will be lost. Make Auto Reboot will create a non-destructive auto-boot sector, allowing you to get away with leaving the boot disk in the drive. A wise addition to the utilities disk. Trust me, I found out the hard way.

Another excellent feature is the ability to unplug the BBU/REU assembly from the back of the computer and still maintain the memory.

Warning #2: When removing the assembly from the back of the computer, do NOT pull on the REU. Pull on the back of the BBU. Damage could result if the REU is disconnected while the BBU is still powered. The next part of this warning is old hat to many **commodore** users, but it needs to be said: NEVER connect or disconnect the BBU from the computer with the computer powered on! Serious damage could occur! As my personal addendum to these warnings, I would like to add: Watch out for the reset switch when unplugging the BBU from the computer. I accidentally hit it one time when unplugging, and reset the REU. Poof! No more GEOS in the REU. The switch is set in the upper right corner of the unit and is fairly sensitive, so it's easy to hit. In everyday use, I have had a GEORAM plugged in for several weeks now; the only problem I've had is when I hit that switch.

The GEORAM sways a little in the breeze. The 1764 we first hooked up to the BBU swayed quite a bit more. The BBU needs a foot to stabilize it once it is plugged into the back of the computer. Although it didn't fail, it did move up and down a lot. If anything, a foot would give piece of mind.

REVIEW!

There are also provisions for using the BBU/17xx series REU assembly with RAMDOS. This means that you don't have to use this strictly with GEOS. Just make sure you answer NO to the initialization question or the REU will be reformatted, destroying any files currently in its memory.

Now, when I wake up in the morning and the sun is shining and the birds are singing, well, I sing right along with them, because all I do is flip a switch and I'm up and running GEOS in a matter of seconds instead of digging around through piles of disks looking for my long lost GEOS System disk.

My rating for this product is five stars. I believe the few minor technical difficulties I experienced are far outweighed by the advantages and convenience.

```
* * * * * FANTASTIC!
* * * * GREAT
* * * GOOD
* * POOR
* REALLY BAD
```

The BBU is manufactured by Performance Peripherals, Inc. and is available from:

LynnCarthy Industries, Inc.
816 W. Bannock St., Suite 502
Boise, Idaho 83702
Orders: (208) 383-0300
Tech Support: (208) 383-0300
Cost: $61.97 plus $6 US, $10 Can., $19 other Shipping.

```
READY.
■
```

SmartTrack

Creative Micro Designs, Inc.

review by Jerry Hill

My first assignment when I arrived here at *dieHard* was to check out another new arrival: the SmartTrack trackball input device.

Actually, I grabbed the SmartTrack before Brian could get his hands on it. Something new! Something different! Boy, am I glad I did.

When I opened the box, I found the SmartTrack, a small beige box about the size of a 1764 REU, an instruction booklet and the SmartTrack Utilities Disk.

I read over the docs and immediately booted up GEOS. We use the GEOS environment a lot here at *dieHard* and I was anxious to see how things worked. The SmartTrack comes with a built in Real-Time Clock, but I didn't take the time to run the program that would set the clock from BASIC. I'm a GUI kinda guy. Fortunately for us all, CMD provides an auto-exec GEOS program that will allow you to manipulate the clock.

The first thing I did in the GEOS environment was move the SmartTrack 128 input driver over to my boot disk and implement it. The SmartTrack will work with the regular mouse driver, but there are some special features that would be left out. You see, the SmartTrack is a 3-button input device instead of the normal 2-button devices we are used to. The left button is a single-click button used for selecting and highlighting files. The middle button puts the trackball into Turbo Mode. This mode allows you to move quickly (very quickly!) from one area of the screen to another. Very handy for navigating the Desktop, as the SmartTrack requires small movements of the thumb and it would take several of these movements to get all the way across the screen without the aid of the Turbo Mode button. The right button is a double-click button. Move over an application icon, press the right button once, and off you go into geoWrite, geoPaint or anything else that can be launched from the Desktop!

Once the input driver was installed, I grabbed AutoSmartTime, the auto-exec for manipulating the clock, put it on my boot disk, and launched it with the aid of the right "double-click" button. There are three options in AutoSmartTime. Either clock (GEOS or the SmartClock in the trackball) can update the other, and there is also an exit option. since I had set the GEOS clock manually upon booting, I chose to update the SmartClock from GEOS. The thing has been keeping excellent time since! What's really great is, with the auto-exec on my boot disk, I don't even have to think about remembering to set the time. Unlike AutoTime and some of the other GEOS programs to come down the pike, AutoSmartTime does it all itself. No dates to type in or trying to find the nearest clock to set the time with! This alone is almost worth the price.

I must say, when I first started using it, I had an incredible urge to push the thing around my desk like a mouse. The first week or so I would start to push, only to realize I didn't need to. My thumb decided to take a holiday, too. I guess I must be getting old. Harder to teach those body parts new tricks. Once I started getting used to the new motions, things became much easier. Now I keep trying to make the mouse do things without moving it! If you ever dreamed of being a computer potato, this little box will do it for you. If the hand is positioned correctly, thumb on the ball, index finger on the left button, next two fingers on the corresponding buttons, there is very little movement involved in navigating GEOS. Now if I could only find a voice recognition system for GEOS, I wouldn't have to type either...

The byproduct of not needing any space for the SmartTrack to move around is, of course, the SmartTrack takes up much less desk area overall than a mouse does. With a desk as messy and overcrowded as mine is, this is quite a boon! I don't have to clear a special area to move in. Just set the SmartTrack wherever your hand is most comfortable and you're ready to go.

For game control, I tried the trackball with Arkanoid II. It worked great, but I discovered (as my last man expired) two handed operation for games with weapons fire is essential. Resting my left hand on the trackball to move and using the right index finger on the left button to fire, I managed to advance several levels in no time at all. Joystick mode can be achieved by holding down the right button during power-on. Arkanoid has a mouse driver built in, so I tried it in both modes. Although

REVIEW!

there wasn't much difference, I found I liked the mouse mode a little better. The response and scrolling seemed to be a touch smoother.

I also tried the trackball with **geoPaint** and was pleased with the responsiveness and control. However, for serious artists, I would consider a combination of joystick and trackball. Some tasks seemed better suited to the joystick. The trackball will take a thumb twitch and magnify it quite a bit. This could get you in trouble during delicate drawing operations.

The documentation is thorough and easy to understand. There are 5 pages of programming information for those inclined to incorporating new technology into their programs. This data gets quite technical, which should allow some fairly involved programming. Much better that than keeping the specs to themselves so no one can take advantage of the SmartTrack.

The disk contains the aforementioned GEOS programs as well as drivers for the C64/128 in native 40 column mode and a special driver for the 128 in 80 column mode. It also contains Smart-Tools, the utility for setting the clock outside of GEOS, and a rundown of what each of the associated modules for Smart-Tools does is included in the docs. As an added bonus, the utilities disk also includes **RUN Paint**, a program that allows the user to create both multi-color and hires graphics. Documentation for **RUN Paint** and a program called **DOCPRINT** are also included.

I give SmartTrack:

[✓ * * * * * FANTASTIC!]
* * * * GREAT
* * * GOOD
* * POOR
* REALLY BAD

A fine addition to the expanding **commodore** universe! The SmartTrack retails for $69.95 plus S&H. For information:

Creative Micro Designs, Inc.
P.O.Box 646
East Longmeadow, MA, 01028
Info: (413) 525-0023
Fax: (413) 525-0147

READY.
■

Get Graphic

by Nicholas J. Vrtis

reviewed by Jerry Hill

Get Graphic is a nifty little program we discovered in the course of putting together the October issue of *dieHard*.

It will take a disk full of **Print Shop** graphics and convert them into a photo album quickly and easily.

The initial screen contains only a menu bar across the top. Choices are: **Geos**, **Done**, **Begin** and **Help**.

Geos and **Done** are straightforward options. Selecting **Geos** gives you one choice: **Info**. This selection displays a dialog box with author and shareware information. Selecting this option also gives access to any Desk Accesories on the disk. **Done** lets you select a **Quit** option.

Begin is the meat and potatoes selection. The first dialog box asks whether to **Create** a new Photo Album, **Open** existing Photo Album or **Cancel**. Opening an existing album will append any new graphics to the end of the album.

Once that selection is made, the next dialog box tells you to put a disk containing graphics into the drive you loaded **Get Graphic** from. Options are **Drive** and **OK**. Choosing drive will redraw the box and tell you to put a disk containing graphics in the other drive. **OK** causes the program to begin reading the directory.

On the next screen, a list of up to 51 graphics (in 3 columns) is displayed along with three selection buttons across the bottom. The buttons are: **Done**, **Next Page** and **Select All**.

All the graphics on a disk can be selected with the **Select All** option. Single selections are made by dragging the pointer to the name of the file and clicking, causing the name to be highlighted. The pointer can also be dragged with the button pressed to highlight a group.

Next Page will go to a second (and third, if necessary) list of files. The pages will wrap around after the last one. Continue pointing and clicking until all the files to be converted are highlighted, then click on the **Done** option.

Keep in mind, converting more than 60 graphics at one time will cause problems with the latest version of **Photo Manager**. Up to 127 graphics may be put into an old photo album. The program saves the album as an older version. Unfortunately, when **Photo Manager 2.1** tries to convert an older album to the new version, it won't convert the album if it has more than 60 graphics in it. This apparently has to do with the naming convention available with 2.1.

When **Done** is clicked, the program reads each selected file, displays the graphic in the upper left-hand corner (a nice touch: you can see the program working!) and when it's done converting, sends operation back to the main menu bar.

The only drawback to this is the procedure for opening or appending a photo album must be repeated for each disk of graphics. Another slight drawback is not being able to see the graphic before it converts. In other words, you need to know what it looks like and what the file name is or guess.

I've used the program twice to convert PD graphics for the magazine. My GEOS system is currently running with a GEORAM and the execution is speedy with **Get Graphic** and the photo albums in RAM.

Not seeing the graphic before I convert is a little inconvenient. I'd imagine this was sacrificed in the interest of speed. The program converts faster than I remember **Graphics Grabber** working and there is no glitches (at least, none that I could find) that cause the program to hang up like the **Grabber** did.

* * * * * FANTASTIC!
[✓ * * * * GREAT]
* * * GOOD
* * POOR
* REALLY BAD

Found on online or write for info:
Nicholas J. Vrtis
5863 Pinetree S.E.
Kentwood, MI 49508

READY.
■

REVIEW!

BBGRam

Performance Peripherals, Inc.

reviewed by Brian L Crosthwaite

My old GEORAM has been a reliable friend over the past few years. But there are some things different about the GEORAM I'm using now. It is battery backed. It has its own power supply, a warning light, activity light, and 2 Megs of RAM! This is the BBGRam -- the Battery Backed GEORAM from Performance Peripherals.

Even today, to get these extra features in any other unit will cost you some money. If you are looking for reliable RAM for all your computing uses, nothing beats a commodore 17xx REU. These, however are hard to find. Clones are available, but unless you have a BBU (see review above), you will have no battery backup which is vital to insure no data loss in the event of a power outage. The RAMLink seems to be the next option. This can be a rather pricey investment -- one you may or may not be willing to make.

If you want to use GEOS with an REU, but have no need for REU support on other programs, the BBGRam is for you. For as little as $93, you can have the speed and efficiency of an REU -- *plus* the failsafe of a battery backup.

It's 1:30 AM. You've been up all night working on your master's thesis. You have been working entirely in the REU. Every fifteen minutes or so, you exit, and while stretching your feet, you save it to disk. Suddenly everything becomes crystal clear and you revamp the whole thing! By 2:46 AM you think to yourself, "I'd better save it ... just one more thi --"

A) "#$&%$#&%&" The power has gone out! But only for a moment. The cursor is blinking at you. You are blinking at the cursor. After you reboot your system, you can't remember what your changes were....

B) "What the --" The power has gone out! But only for a moment. The cursor is blinking at you. You put in your boot disk and load and run **BBG RBOOT**. No problem. You are safely returned to the drive you were on last and save the file.

The BBGRam can hold its information in memory for up to three weeks using standard alkaline batteries. I didn't get a chance to test this myself, however, the power did go off for three hours and I had no problems rebooting.

With the 512K model, you can have all the regular features of any normal GEOS setup. 1541 RAM and 1571 RAM are the bare basics for RAM. On the 1Meg model, you can have 2 1571 partitions and on the 2Meg model you can have 5 1571 partitions. But your options don't end there. With Jim Collette's **Configure 2.1**, you can have one 1581 RAM on the 1 or 2 Meg models.

I have five partitions set up now. I have all my **geoWrite** utilities in one, my **geoPublish** stuff in another, **geoPaint** in one and **geoSpell** in yet another. Oh, and some games in the last one. Hey, I need a diversion now and then!

The partitions are close to full. In fact, I've set most of them up with as little as 14k free. This magic number represents the smallest amount of room needed by most applications before they will open. Where are my documents? On disk. I'm a little nervous about REUs from years of experience. I do get careless now and then and create one in the REU itself. Even though I have my docs on disk, the REU is still a vital part of my system. It's like a hard drive, in that the applications open and load modules very quickly. And I do have the option to use the last amount of REU space for a doc or two if I need the extra speed.

With this setup I can easily move from the write area to the spell area. I simply exit the document, since the application is on the REU, I will be let out on page one where I have **MountMRAM**. I open **MountMRAM** and there is a title bar that says Drive A with a close button to the left. Beneath this are five buttons -- A, B, C, D, and E. These are the partitions. Drive A means I am in partition A. I click on B and the title bar changes to Drive B. Click on the close button and I am now in partition B -- my spell checker is at hand ready to go! GEOS has never been easier!

For those who'd like to have everything accessible at once, the **Configure 2.1** is provided so you can have a 1581 partition that will hold **geoWrite**, **geoSpell**, **geoPublish**, **geoPaint**, libraries, dictionaries, conversion programs, fonts, the calculator -- what ever you may need -- all at once. The five partitions will hold more, about twice as much. So you can see just how versatile the BBGRam really is.

Whenever you have any disk activity to the BBGRam, the green activity light will flash. This way you know it's updating your document. It will also tell you of any errors. The red light lets you know that either your batteries are going or you have none connected, depending upon your setup.

This setup was also tested in an Aprospand cartridge port expander with an Action Replay in slot one, Video Mate in slot two, the BBGRam in slot three and a Mach 128 in slot four. Everything worked just fine. The BBGRam's slot had to remain on to use any of the other cartridges and as long as the other carts were off (Except the Mach 128) the BBGRam worked flawlessly.

You can remove the BBGRam with the power off to the computer and the power supply unplugged from the BBGRam to transport it, or use other cartridges, but I don't recommend it. The battery pack plugs into the BBGRam via a short set of wires and is rather heavy (four D cells). My only complaint on this device is that I'd liked to have a copy program to copy from one partition directly to another.

It's low cost and high reliability make it a wise choice for GEOS users from beginner to pro. This one gets a:

*** * * * * FANTASTIC!**
* * * * GREAT
* * * GOOD
* * POOR
* REALLY BAD

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READY.
■

LOADSTAR ad
do NOT use this page!!!!

Basic BASIC

by R. Scot Derrer

This is a series of columns on the syntax and techniques of BASIC programming. This month is another go at the READ and DATA commands.

Manipulating Graphics as DATA

The last column was about displaying text or words on the screen using the READ-DATA commands. Graphics, within quotes like *string variables*, may also be used in the DATA statement. A picture is worth 1000 words, so here is an example.

```
10 DATA "TURKEY DAY IS COMING!"
20 READ V$
30 FOR X=1 TO 10:PRINT V$:NEXT
```

OK, I know there are no real graphics here, but realize that anything between quotes (*string variable*) is treated like a graphic, text or not. Using the V$ with READ also dictates that the expected DATA elements are string information. Last month, the examples had the DATA statement towards the last line of BASIC code. Notice it is the first line in this example. There is no special location for READ-DATA in BASIC programs, except maybe for readability.

Now let's try a similar piece with actual graphic characters. This example will draw a line across the screen. The graphic symbol between the "" in LINE 10 is typed using shift *. [VIC20ites should change the 40 to 22 in LINE 30]

```
10 DATA "-"
20 READ G$
30 FOR X=1 TO 40:PRINT G$;:NEXT
```

Without quotes, you can use letters and numbers as DATA elements. Quotes are necessary to display graphic characters. If you use a numeric variable as in READ N, the DATA statements should only be numbers. DATA statements using numeric variables will be covered next month.

If you saw the last column, you might remember the discussion about the ?OUT OF DATA error message generated when there are more READs than DATA elements? In these two previous examples, there is only 1 DATA element and the READ is outside of the FOR-NEXT loop. Here, the READ doesn't care how many times it is executed. But put the READ within the FOR-NEXT loop and you'd better have valid data for every READ that is executed or the ?OUT OF DATA error message is displayed for your pleasure.

READ DATA with FOR-NEXT . . . NOT!

What if you want to use the READ-DATA without a FOR-NEXT loop? It's easily done and with proper precautions you can avoid the ?OUT OF DATA error message. Check it out.

```
10 DATA TURKEY, DRESSING, CRANBERRIES, SWEET
POTATOES, BEANS
20 PRINT CHR$(147)
30 READ D$:PRINT D$:GOTO 30
```

RUN this and you'll see what happens. LINE 30 loops to itself until there are no more data elements to retrieve and WHAM, the ?OUT OF DATA error message is displayed. Now let's fix this problem with the next example.

```
10 DATA TURKEY, DRESSING, CRANBERRIES, SWEET
POTATOES, BEANS, Z
20 PRINT CHR$(147)
22 READ D$
24 IF D$="Z" THEN GOTO 40
30 PRINT D$:GOTO 22
40 PRINT"END OF DATA"
```

There you go. Adding the Z to the end of the DATA statements acts as a "flag" of sorts. This flag can be a word, letter, number, even a graphic character (in quotes). LINE 24 checks for this flag and when it is found, exits to LINE 40. LINE 30 loops back to the READ statement in LINE 22 which retrieves data elements from LINE 10. You could even put this flag character in the middle of your DATA elements. BASIC is a fairly flexible language.

READ-DATA commands are so much fun that the 3rd and final installment about them will be next month. Until then, be seeing you and have a wonderful Thanksgiving.

```
READY.
■
```

Public Domain - Yesterd

by Jerry Hill

Software is readily available for your **commodore** computer at little or no cost. Believe it? You may not think so, but I intend to show the where and how and focus on the what with an overview of **commodore** public domain software that has come to my attention over the years.

What is public domain software? Basically, it is a non-commercial program that is released by the author into the public domain. There are three basic types of non-commercial software. Public Domain is exactly that. The author requests no donations or fees. The program can be altered, modified, or incorporated into other programs. With freeware, the author retains the copyright and the software is subject to any restrictions defined by the holder of the copyright. Shareware, on the other hand, costs money. The author will either request a user donation or require one in order to get updates of the program or, indeed, to get a fully functional copy of the program. Shareware is on the honor system, so if you don't pay, it's your conscience. There is also a question of legality. Basically, you can own a copy of a program without paying for it, but if you decide to *use* it, you are required to pay for it.

Now that we know what public domain is, let's figure out where to get it. My first suggestion would be: join your local user group. User groups are an endless source of information. Aside from the fact that many groups maintain public domain libraries, there are all kinds of folks with all kinds of information. The group I came from, UPCHUG in Tacoma, Washington, has one of the largest PD libraries on the West Coast.

Another great source of PD programs is Bulletin Board Services (BBS). You may have heard of BBSing before but didn't understand what it meant. Bulletin boards are accessed via modem over the phone line. If you are apprehensive about telecommunications, get with someone in a user group who knows about it. Bulletin boards are another source of great friendship and good times as well as a major source of information. Most bulletin board systems maintain an online (accessible by phone) library of software. There are also several pay services such as GEnie and Delphi that maintain large **commodore** libraries.

Finally, a good place to go is the local **commodore** shop, if you are lucky enough to have one in your neigborhood. Many shops maintain a public domain selection. All you pay for is the cost of the disk and the labor involved in copying.

Once you find a source for PD software, sometimes the many file listings in a library can be daunting. How do you know if a file called **Muglumps** is going to be the one you need? That's where the rest of this column comes into play. I will give a brief overview of PD software, past and present (with maybe a little future dreaming thrown in), trying to touch on all the major categories. If I leave your favorite program out or skip a category, drop me a note here at *dieHard* and I'll try to work the suggestions into an oversight column.

Databases

There are several decent databases in the public domain. The one that pops into my head right off the bat is **File Drawer 4.0**. This one can be found most anywhere. A popular name and address base is **Yellow Pages**. Genealogy is a popular pastime among **commodore** users, and there are **Roots V2** and **Family Tree** for those users. There are several specialized databases including bases for videotapes, baseball cards, and a nifty program call **Song List 9.1** for organizing your music collection. Databases are well represented in the public domain, mainly because they are a highly useful application of computer technology.

Business and Finance

Another area where computer technology is extremely useful is in the field of business applications. **Parts Inv 1.0** will keep track of your stock while **Invoice 3.4** will write custom invoices for your business. **LabelPro 4.0** will print out mailing labels. **Form Maker 2.0** and **Multi-Form C64** will design all sorts of simple forms. There are checkbook registers, financial analyzers and bidding programs by the score. I don't know of a PD spreadsheet that is worth it's salt, but someone out there may. If so, let us know.

Word Processing

Future Writer II will produce cool docs to be read as they are written to the screen including any mistakes you make. They will appear as you typed them in and deleted them. Livly graphics and great music make your docs a blast to read.

Disk and File Utilities

This category encompasses a large selection of programs. Choosing a favorite is up to the user. Some programs are more friendly, some do more things.

The first thing you need to do when copying programs is format disks. This can be tedious without **1541 TurboFormat**. When you have several disks formatted, **VFast Filecopy** will allow you to copy programs from one disk to another quickly and efficiently. **commodore** disk drives are notoriously slow. To help speed them up, use **FastLoad** or **TurboDisk 128**. Once you have all the files you want but can't seem to ever find the one you need, use **DCMR** by Ray Martin to catalog your disks. If all the files won't fit on a disk like you want, try **Squeezer** to compact them. For reading the documentation without booting up a word processor, **Ultra V8.1** is the answer. This version even supports mouse input! If adventure and intrigue are part of your personality and you have a disk that just doesn't work right, there are several PD track and sector editors.

Programming Utilities

Do you program? Have you ever wished for some little program to make your life easier? There have been a lot of programmers in the **commodore** world over the years, and they have come up with just about anything imaginable.

Jim Butterfield is a long time **commodore** and machine language guru. He is represented in this category by **Xref 64**, a variable cross-reference program, and **Supermon+**, a machine language monitor for the 64. **Modlink** will link BASIC and machine language files together. In the interest of speed, there is **Compiler**. For those that want to see the code, there is **Decompiler**. Special effects abound in the BASIC extension **EFX BASIC V1.0**. There are loads of programming utilities out there. If you need it, chances are, someone has a program that will do it.

Telecommunications

Telecommunications is an area where programmers have gone nuts! There are more professional terminals in the PD/Shareware category than there ever were on the software shelves at the store. The best of the bunch, in no particular order: **CCGMS Vx.x**, **Desterm 2.00**, **EdgeTerm 3.7** and **Novaterm 9.5**.

Data transmission can be costly when sending a large file or several files over the phone lines. Several popular formats have cropped up over the years for data compression. **Arc 250.4**, **Ultimate Lynx** and **Lynx/SDL Kit** are

ay, Today, & Tomorrow

programs that create .ARC, .SDA, .LNX and .SDL files. These utilities decompress data, too. A recent entry into the telecommunications forum, **QWKRR35A** is an off-line e-mail reader program. Other computer platforms have enjoyed the use of a utility like this for years. It's great to see one for the **commodore**.

GEOS

The GEOS environment has been a haven for programmers the last few years. Quite a number of creative geniuses have given their all for the ultimate **commodore** operating system. A program we here at *dieHard* just recently discovered is called **getGraphic**. See the review elsewhere in this issue to find out more about it.

There are a many great **GEOS** shareware programs. Here's a quick glance at a few: **Font Editor 1.2** by Jim Collette, **QwikTop** by John F. Howard, **Text Print 1.2** from Terry Van Camp and **geoGIF**, attributed to Randy Weems. For a measly $10 fee you can have an entire programming environment with **Brian**, a **GEOS Forth** system from Anticipatory Design Science.

Games

This is probably the category most of you have been waiting for. Some people just can't get enough playtime...

Star Trek enthusiasts the world over have got to love **Star Command.** The author has created a simulation worthy of a holo-deck. The first episode of the game was released to the public. Further episodes can be obtained by registering with the author.

Super Rockfall is a maze game. Personally, I am aMAZEd that I ever solved a level. The puzzles are complex. The game comes with its own level editor, and the soundtrack can be re-programmed with your favorite SID songs. There are many levels available for download from bulletin boards.

Music and Sound

To start off the music category, I'll cover the ubiquitous SID player programs first. **Stereoplayer V10.3** is reviewed in Archaic Computer elsewhere in the magazine, so I won't talk about it. Another player you can find most anywhere is **SID/PIC 3.4** by Kermit Woodall. This works just as well as Stereoplayer, but without all the bells and whistles. MIDI interfaces? Try **MidiTerm 4.0** if you want to talk to your MIDI-capable musical instruments. Another interesting SID program is **Digital Recording Studio** by Steve Grace. Digitized sounds can be played back with **Digiplayer 3.1**. Digiplayer can handle source files from the Amiga, Atari ST and Apple Mac and GS formats as well as **commodore** digitizations.

Graphics

Do you like to look at pictures? Well, the public domain is the place for you.

The best utility for viewing and converting different graphic formats is **Autograph**. An excellent program for graphics manipulation is the **Graphic Assault System** (**GAS**) by Bruce Bowden. This program will allow you to manipulate most formats in some incredible ways.

Do you have a large library of Print Shop images but can never remember the name of the graphic you want? **PS Dump V2.0+** will answer your prayers. It prints out Print Shop graphics 10-across, with the graphic name below the picture.

Labels? You want labels? The answer is **Ultimate GaryLabels**. This program might belong in a different category, but I like the ease of putting graphics in, and the overall flexibility of the program in creating a nice-looking label.

Miscellaneous

Bartender
Energy Saver
Home Inventory
Elec.Use
TikitMaker/Stub
Recipes
Medicaid2.0
Will Writer
The Bartender
Recipe Sizer

Educational

Alphabet Soup
City Manager
FingerSpell.c2
Lemonade Stand
Meteor Math
Missile Math
Mt St Helens
MunchMath
Phoncentration

Conclusion

As you can see, there are a lot of programs out there. I remember what it was like to start out with no programs and only a dim idea of how to get online. With the shift of **commodore** support from a ready-made, pre-packaged world to one that is a little more elusive, knowledge is an essential commodity. Hopefully, you saw a program here you would like to try or remembered one that has been gathering dust in your disk box for awhile.

Maybe you will be inspired to write a program that hasn't been written yet. I know there are a few I'd like to write. Our programs won't come from anywhere else.

If the future of **commodore** computers is anywhere near as bright as this list from the past and present (and I think it is), then we will all certainly *dieHard.*

Support your local **commodore** programmer. If he goes away, we won't be able to gripe about the bugs in his programs....

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READY.
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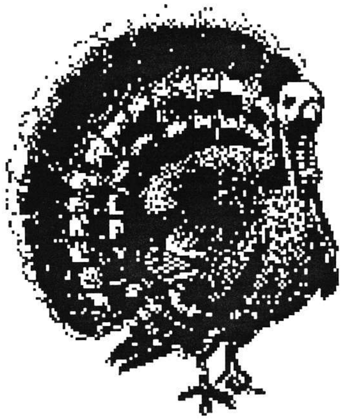
Archaic Computer

The Computer Store Of The Past

Introduced by Brian L Crosthwaite

Ah, the new **commodore 64**. Great graphics, great sound, great price. It's not how much it costs, it's how much you get. **Astro Blasters**, **Space Creatures**, high scores. But can you program? These were the messages we got from Commodore back in the early eighties. Back when we didn't know that Commodore was becoming the leader of the pack. Why did I get my C64?

That's a tuffy. I was just getting into programming, I had no idea of any possible short comings the BASIC may have had, compared to other computers. I remember the level talk the sales person at K-Mart presented. I don't remember any demonstration of the computer's abilities. I think I was impressed by the 64k-versus-price. There was talk, but I heard no voices. It was like I'd found the very best deal around. Little did I know -- I had no idea!



This thing came with an anologue synthesizer chip. The sound interface device -- SID. This, now, is one of my favorite features of the C64. Many have liked it so well, they braved the soldering iron world of adding a second SID chip to their C64s. I lucked out. Dr Evil Laboratories has created a cartridge called the SID Symphony Stereo Cartridge.

SID music in stereo... what a delight, but how do you play it? Do you have to program it? Does it work automatically? Well, you needn't wonder any more. Let's go back to 1988 and take a listen to the Stereo SID Player, here, in the computer store of the past....

Stereo Player 10.3

by Mark Dickenson

reviewed by Jerry L. Kill

You've been wandering around the download area of a friendly BBS and run across a couple hundred files that end with .MUS and .STR suffixes. What could that mean? Read a few of the file descriptions and the realization hits. These are all songs! Songs to play on the computer! Music for the masses!

A downloading frenzy begins (or perhaps a friend gave you 20 disks full of SID songs). Try and load one up to listen to it and nothing happens. &$%#X&! Must be some way to listen to them... Hmmmm....

Wait! There's a file named **Stereo Player V10.3**. Could that be it? You betcha!

Load up the program. The screen goes dark. What's wrong now?!? Then, with full-bodied notes that shake your insides, at least when the audio cord is plugged into a bass amplifier, the first strains of Also Sprach Zarathustra barrel out of the speaker. The menu screen begins to rise mysteriously from the bottom of the monitor like a monolith (2001, anyone?). Thus begins the journey into the greatest SID player program ever written.

The menu finally rises all the way up the screen and the tune breaks into a swingin', rockin' version of the same song. When it finally comes to an end, the screen and the last note wiggle and shake violently. Maybe the program is broken after all? Nah, just another amazing special effect. The opening can be bypassed by pressing the RETURN key, but there's no reason to miss out on something as wild as that.

The opening screen and song are just the introduction to an incredible symphony of features. After everything stops, the program waits for you to put a disk with those .MUS files on it into the drive. Once the RETURN key is pressed, the program searches the disk directory for .MUS files. If you put a disk without .MUS files on it into the drive, the program is smart enough to let you know. When all the files have been noted, the main menu is presented.

The main screen has several distinct areas. A list of the songs on the disk is on the left. To the right, command keys are listed along with a description of what they do. A credit box is at the bottom of the screen.

The song list is contained in a scrolling window. The song name in the middle of the window is a different color from the rest of the names. This is the *highlight* area of the window. Pressing <f1> will *play* the highlighted song. The cursor keys scroll the list through the window. <HOME> and <CLR> will take you to the top or bottom of the list, respectively.

"So, big deal," you say, "it can play a song." "I've got a player that will do the same thing."

Let's listen to several tunes at once. The <RETURN> key will *select* (display in reverse video) any number of songs from the list. Select a sheaf of them and slap <f2>. <f2> will *play selected.*

Didn't want that list? <f4> *clears* the selected files. All the songs from Rag Mop through the end of the list? <f7>.

What? The whole list? Sure, just tap the <f3> key for uninterrupted listening pleasure.

The rest of the options on the main screen are: <R>, <P>, <f4>, <f5>, <,> and <.> (comma and period). <R> or <P> will repeat the last song played. <f4> toggles the repeat feature on and off. This will play selected songs over and over and over.... Use <f5> to change to a different disk of songs. The comma will allow the playing of the left side of a .STeReo file on both channels; the period plays the right.

Stereo? What's this about stereo? Some **commodore** owners are probably familiar with the fact that the computer can be equipped with an extra SID chip, either hardwired or with the SID Symphony Stereo Cartridge. **Stereo Player** can utilize this extra chip and has the capability of manipulating the separate channels. Stereo will come up again in a bit, but we have a couple of keys left to explore on the main menu.

The <D> key displays a disk directory. The <C> key gives access to all of the normal DOS commands.

<C=> will take you to the second command screen. <SPACE> calls up the Stereo Modifier menu which sets up parameters for how the highlighted 3-voice mono song will be played. We'll check out the second command screen first.

The second menu displays more options for getting around the song list. Pressing the numbers 1 through 9 sets the number of repeats for the *highlighted* song. This number can be set for *each* song. <+> and <-> are used to jump five song positions forward or backward through the song list.

The strength of the second menu lies in the configuration set-up keys. With these keys, the address of the second SID chip, if you have one, can be set. The look of the piano keyboard, on screen when songs are playing, can be altered. Playback mode (mono/stereo/midi) is toggled by pressing <M>. The fastload routing can be turned on or off with the <F> key. Auxiliary key colors, should there be any present in the song file, can be toggled on or off. Associated .PICture files are toggled, too. The input device number is set on this menu. The expander option works like reverb on 3-voice songs, adding dimension to the music. The opening sequence can also be toggled. All these features are saved in a configure file by hitting the <arrow back> key.

The parameter menu, accessed with <SPACE>, allows the user to manipulate how a 3-voice song will be played back. There are three main modes for playback: mono, stereo and *delay*. The delay value can be set from 1 to 9. Use the <f1> key to toggle this value. The delay option fools the player into thinking that a 3-voice song is really a 6-voice song. Each of the three voices can be specifically manipulated as well. Mono or stereo playback, the duration of the voice on either channel and the starting and/or permanent playback channel are set from this menu. In delay mode, voices can be transposed between the left and right channels. Best of all, each SID song can be *stamped* with these values. This means every time the song is played back with **Stereo Player**, the stamped values set up the playback information. The stamped SIDs should have no problem playing back through other player programs.

The concepts may sound a little complicated, but basically it's all just tweaking the sound. If it's not stamped, it's not permanent. Just experimenting can be a lot of fun and the things you can make a SID song do are incredible. Be aware, this only works with a second SID chip. Tweak away, but without the chip, the commands are ignored.

"Awright, already," I can hear you saying. "Play me a song."

Ah, now we get to the amazing part. Any of the play options (<f1>, <f2>, <f3> or <f7>) cause an interesting change. The main menu slides slickly off the screen and The Band slides on!

The keyboard screen is one of the more incredible sights in **commodore** computing. The upper left quadrant of the screen is occupied by a double keyboard. The upper right corner contains a miniature band: drummer, trombone & trumpet players and a frizzle-haired conductor. Just below the band is a voice indicator that shows, when a song is playing, which voices are active along with the specific note each is playing. The bottom half of the screen is occupied by a large window that will display, in order: LOADing messages, credits for the current song and words for the current song should there be an associated .WDS file on the disk. Across the very bottom of the screen is the keyboard menu.

When asong loads, serveral things can happen. A .PICture file may load, a .MUSic file loads, a .STeReo file may load, an .ANImation file might load and a .WoRDs file may load. The credits appear in the window. A oneanna, anna twoanna...

The screen becomes a riot of color and movement. I could sit and watch this screen for hours. The keys on the keyboard highlight each note as it's played. The band plays with verve and abandon. The voice indicator is in constant motion. A small credit line at the top of the keyboard display sparkles with color. Two bars on either side of the word window slink back and forth in time to the music. The words to the song begin to scroll into the window. The most fascinating aspect to all of it: each motion seems *independent* of the others! It's all too much. I slap the <f5> key to abort the proceedings.

Okay, I think I'm ready for another song (or six). The melange of sights and sounds strikes me again. This time, I'm ready for it. I *read* the menu at the bottom of the screen.

Don't like that song? <f7> or <SPACE> will bypass the current song and go to the next selected song on the list. <f5>, as I mentioned, aborts to the main menu.

Pressing the <P> key will pause the song; pressing it again will restart it. <F> (fast) and <S> (slow) increases or decreases the speed of the playback by a factor of three. Why? Fast-forward through sections you don't like or creep through the song to see how it was put together. Why not? Use the <N> key to get back to normal speed.

SID songs can have associated .PICture files that are automatically loaded with the song. Suppose you would rather watch the band in action. <RETURN> toggles pictures on and off.

Mark Dickenson threw everything but the kitchen sink in this program. He even got the esteemed Jerry Roth (Dr.J) to do the opening title SID. However, Mr. Dickenson released this program into the public domain as shareware. Unfortunately, the shareware concept apparently wasn't very kind to Mr. Dickenson. He never asked for a specific amount for this program, at least in the documentation I have. Maybe the lack of response was, in part, due to that fact. I know I never sent any money to him. I don't use **Stereo Player** all that often, but I *have* used it and this article reminded me of what a fantastic programming job was done. I think I'll be sending along a check soon. Perhaps, if you rediscover the program like I did, you will send him one, too.

Four stars? Five? This program rates off the scale. The features are abundant and useful. Both the novice user and the serious SIDster can get a lot out of the program. Out of the galaxy of **commodore** public domain programs, this one is definitely in the top-ten, all-time, must-have programs.

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READY.
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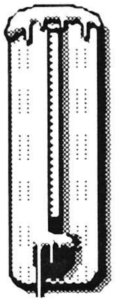
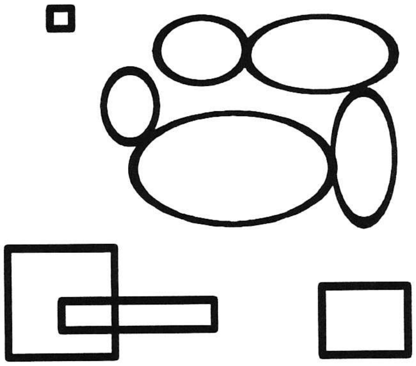




Gil Parrish's

It will happen to you sooner or later, as it does to all enthusiasts of older **commodore** equipment. You'll be at a thrift store, garage sale, or similar location and will find a **commodore 1526** printer (or MPS-802, which is substantially identical) practically being given away. You will recall all those nasty things you've heard about the 1526 and will ponder whether the thing is even worth dragging home.

The 1526 is sort of the Rodney Dangerfield of **commodore** serial dot-matrix printers: "It don't get no respect," even from some users who have never even seen one. Not that such critics have much better comments about the competing **commodore** model of the same era, the 7-pin 1525 (or the functionally similar MPS-801). But those folks will tell you the 1526 doesn't do graphics, while the 1525 does. And it is quite true that the 1526, being essentially a serially-interfaced version of the CBM 4023 printer marketed for Commodore's graphic-limited PET/CBM line, was not designed to print dot-addressable high resolution pictures. This may not sound too bad if you're not into artwork, but remember that even some text based applications today use high resolution screens. **geoWrite**, for example, can create all those fancy typestyles because it utilizes high resolution to draw them. Be that as it may, trying to pin a *doesn't do graphics* epitaph on the 1526 obscures the printer's best features and isn't totally accurate. Perhaps a direct comparison with the 1525 (and 801, where significantly different) will explain why Commodore was receiving $500 for a 1526 at the time the price tag on the 1525 was $400.

The first thing you may notice when you hook up the 1526 is that it has two serial ports. In other words, you can daisy chain a 1526 and put more than one printer on your system at the same time. While the 801 is the same in this regard, dual serial ports are a luxury not featured on the 1525, or indeed even on fancy parallel printers of today which have to utilize a separate (and somewhat pricey) interface to connect to a **commodore**. You may next notice the 1526's paper handling features -- it will take tractor feed or friction feed paper. A number of printers of that era handled either tractor feed paper (like the 1525 or 801) or friction feed (like the later 803), but not both.

When the printing starts, you'll see the text printed by the 1526 is far superior to the quality of the text on a 1525/801, for several reasons. First, the 1526 prints its characters with 7 to 8 dots horizontally; the **commodore** 7-pin printers use only a five dot wide matrix. Further, the 1526 prints its letters a bit smaller than the 7-pin printers (perhaps 11 characters per inch rather than the standard Pica 10 per inch), meaning the dots composing each letter are closer together on a 1526. The result is Near Letter Quality (NLQ) printing for a few characters (the dots merge together completely to create fully formed letters) while the rest of the type is pretty good even if it is what we would call today draft mode text (you can see the individual dots comprising the letters). The 7-pin printers by comparison produce very rough draft printing, or what I call NNLQ (Not even Near Letter Quality) print. Incidentally, the print quality on an 802 is supposed to be a bit better than on a 1526 -- something about squarer dots that create even more solid looking letters.

You can even upgrade the text quality on a 1526 if you're willing to invest additional time and effort. Present day 9-pin printers achieve their NLQ text by printing a line, advancing the paper ever so slightly, and printing additional dots over the same line. While not specifically designed to do this, the 1526 can be made to emulate this technique through software control. The 1526 can advance paper as little as 216th of an inch (perhaps 144th of an inch on a few of the earliest 1526s), after which the same line can be printed again. A program like **Boldface** (which appeared some time ago in *COMPUTE!'s Gazette*) can automatically print out an entire sequential text file using the slight advance and overstrike process. The resulting text is quite dark and solid and probably qualifies as low-end NLQ print. The **commodore** 7-pin printers simply cannot do that.

The type on the 1526 has true descenders, which are the little tails on lowercase letters like *y*, *g*, and so forth, that normally descend below the line on which the other letters sit. **Commodore**'s 7-pin printers use all 7 pins to make capital letters and hence have no ability to print a tail on letters below the line. In other words, while such letters are shaped normally and have tails, the tails do not really descend below the line (are not true descenders). The result is letters out of position relative to where they should be. The 1526, having 8 pins vertically, reserves the bottom pin just for printing the below line descenders (or underlining). This produces much better positioned text.

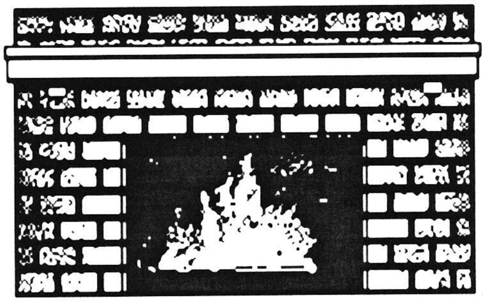
Collector's Corner

A number of other factors tilt a 1526 vs. 1525 head to head comparison in favor of the 1526. For one thing, the 1526 is quieter when it prints. It's also faster -- 50+ cps bidirectionally versus 30+ cps unidirectionally. The 1526 has a pusher tractor feed, instead of the 1525's puller tractor; the pusher type is the kind most printers feature these days and allows ripping the paper off just above the printhead, which eliminates waste of an extra sheet of paper with each printing job. Visually, the 1526 is the taupe (brownish) coloration used on millions of older C64s up until the 64C model: the 1525 color coordinates only with the VIC-20. (The 801's coloration is browner than the VIC and creamier than the 64 or 64C; it really does not match anything.) Finally, the 1526 has a one button page advance feature while the 1525 has none (and the 801 has only a line advance button); not a major thing, but classy to have! By contrast, the list of 1525 features not standard on the 1526 is rather sparse: the 1525 has a Device 4/5/T switch while the 1526 does not.

With all its advantages in printing text, one might almost forgive the 1526's reported lack of graphics capability -- almost, yet not quite, because sooner or later every **commodore** owner wants to do something with graphics. In truth, the 1526 is not totally incapable of doing at least some graphics. For one thing, the 1526 will print the special **commodore** graphic character set (those funny shapes on the front of your keys). That alone would be more graphics than a **commodore** owner could get from a daisywheel printer. More importantly, the 1526 allows you a one-per-line graphic character you can design yourself. This may not appear at first to be a big deal (it was undoubtedly intended for simple text-based uses, like printing a cent sign or other character not featured on the **commodore** keyboard); but clever programming has many times made up for hardware design limitations. There are programs available which allow the 1526 to duplicate whatever is on the screen (or whatever is contained in a disk file in Koala or other graphic format) by defining that single programmable character as a tiny piece of the overall picture, printing the character out, pretending to start the next line (reversing the printhead direction just slightly past the last character printed without advancing the paper), redefining the programmable character as the next little piece of the picture, printing that piece out next to the last one, and so forth, character after character and line after line. The resulting picture takes a while but looks fine when it fully arrives. Using the same one-definable-character technique, the 1526 printer driver for GEOS allows the user to print out all those fancy GEOS fonts and pictures. Indeed, as a GEOS printer, the 1526 holds its own against the 1525. As you may know, the **commodore** 7-pin printers have an inherent problem with GEOS -- they print wider than GEOS expects. So while **geoWrite** is usually a WYSIWYG word processor (What You See Is What You Get), you have to pull in the right margin when using a 7-pin printer to keep some lines from spilling over. That doesn't happen with the 1526 because it prints smaller. The print quality is much darker with the 1526, since it prints a denser matrix (although the 1526 does seem more prone to leaving very light background streaks, caused by the mylar ribbon accidentally rubbing the paper as it goes by). Nor is the 1526 a significantly slower GEOS printer than the 1525. In a test, a partial page of **geoWrite** text in a large font took the 1525 four minutes and five seconds to print. It took the 1526 four minutes and thirteen seconds. That's only a three percent difference.

To conclude, the 1526 is not for everyone or all jobs. For an experienced user's primary printer, there are other inexpensive printers out there (the **commodore** models beginning with the MPS-1000 and the various Star NX-1000 models spring to mind) which offer far more features and flexibility as to both text and graphics. But if a 1526 can be located at a rock bottom price, it is a good buy for the purpose of providing a starter printer to someone, having a loaner printer available for friends, or possessing a back-up printer in case of trouble with your regular unit. And (simply put), it is a neat addition to any **commodore** hoard! The 1526's reputation is far worse than the device really deserves.

READY.
■



The Santaman Cometh

commodore info

INPUT;

The following is a letter sent to us by Bo Fain, after a very exciting phone call from Mr. Fain. Since there was so much information here is the whole letter (pretty much). We have several letters containing vast amounts of ***commodore*** *BBS information from all over. We will be featuring those letters here. If you have any* ***commodore*** *BBS network listings you'd like to share, send them to INPUT;READER$, P.O.Box 392, Boise, Idaho, 83701-0392.*

Internetworking comes to the world of **commodore** at last!

A year ago, when I first put my BBS (BODACIOUS BBS) online, I joined a **commodore** network called U.B.A.N. (United BBS Alliance Network). There are several such networks throughout America that operate on C64 computers with **Image BBS** software. U.B.A.N. consists of about a dozen BBS systems scattered around the country. Each system usually utilizes a hard drive such as mine, a CMD 120 mb with JiffyDOS speed enhancement chips. The capacity of a hard drive allows sysops (short for system operators) to offer callers many enjoyable features. For instance, on my BBS there are message bases (called sub-boards), lots of online games, a networked BBS phone listing, a networked dating module, and *tons* of **commodore** Public Domain software programs that can be downloaded free of charge! Users on each system can communicate with other users on other systems by means of network transfers. During the wee hours of the morning, the BBS will dial the other BBS systems to which it is connected in the network and transfer mail files, sub-board messages, and other data.

Recently, modifications were written for the **Image BBS** program that will revolutionize the world of **commodore** telecommunications! These modifications will allow Commodore Image networks to link their sub-boards to one another ... thus users of one network will be able to communicate with users of another network, whereas in the past they were limited to communicating only within their own network. The networks presently participating in this dynamic new concept are U.B.A.N., N.I.S.S.A. (New Image Sysop Support Association), and POWERNET. Although each network has its own rules and regulations, we have all found sufficient common ground and flexibility to overcome any differences we may have in the interest of improving the flow of information. Until only a few short weeks ago, I only had access to 12 systems; now it's around 45!

Even more importantly, this creates a massive advertising media for **commodore** support companies. N.I.S.S.A. network has always had a "***LOADSTAR*** Support" sub-board where users could talk about the programs on the monthly disk magazine. However, the **LOADSTAR** company was never able to participate due to the fact they are located here in Shreveport; and N.I.S.S.A. did not have a BBS here in town. So, now that my network (UBAN) has linked with NISSA, Jeff Jones and Fender Tucker can log onto my BBS or Neutral Zone BBS (another local UBAN BBS) and communicate directly with their subscribers. Too cool! Hopefully, many other **commodore** support companies will also join in and use this vast new internetworking technology.

Who is to say what the future may hold? Already, some of the sysops more experienced in **commodore** programming are looking into the possibility of making Image BBS run at baud rates up to 14,400. One BBS (Daytona Online in the UBAN network) is running a 4-line (multi-node) BBS. It is my hope that this internetworking and some of the brilliant programming now in progress will bring about a resurgence in the world of **commodore**. Bigtime internetworking has come to the world of **commodore** at last! We affectionately call our new linking concept the POWER-LINK since the modifications were written by DRAGON (sysop of Emerald Castle BBS) in the PowerNet. Anyway, onward and upward. The revolution is on! Call one of the Power-Link BBS systems in either of the three networks and join in. This thing can only get bigger. I hope to see you in the sub-boards soon.

I am enclosing an internetworking map that shows how the three currently linked networks are tied together. Each three-letter identifier is an abbreviation for the name of a BBS, like BOD is short for BODACIOUS BBS. Below the map is a list of BBS systems sorted into their respective networks. It will show what cities each system is in and some even contain phone numbers.

```
Combined Network Map
Power-Net
               SF1
                !
   OUT - SBD - EMC - SHF - TBT
                !
                !
UBAN            !
         CCB    !    BMS
          !     !     ! ALP - DRG -+
         SFC    !    TAB          DOL
                !                  !
         S13 - BOD - DKT          SLR
                !                  !
               NTZ                BRS
                !
NISSA           !
         PPB    !
          !     !
   WNB - DFC - TBR - TCC - TPP
          !     !
   CCB - DAM   CIB - NDB - NTA
                !     !
   TSL - WWB   CBM   ENT   TIZ
          !           !     !
   PHB - UGB - HCL - CHM - TRT
          !     !     !     !
         HAM   MAC   LWR   POE
```

Bo Fain on the

rmation highway

READER$

NETWORK NODES

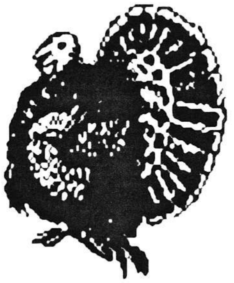
Node #/ID - Name & Location:	
1/SLR - Silicon Realms, San Andreas, CA.	(209)/754-1363
2/ALP - Alpha Centauri BBS, Harrisburg, PA.	
3/BOD - Bodacious BBS, Shreveport, LA.	(318)/929-4020
4/DRG - Dragon's Lair, Harrisburg, PA.	(717)/774-7714
5/BRS - BBSaurus BBs, Lynnwood, WA.	(206)/776-7082
6/SFC - Star Fleet Command, Springfield, OR.	(503)/746-4890
7/CCB - Crystal Caverns BBS, Harrisburg, PA.	
8/S13 - Starbase-13 Ashdown, AR.	(501)/898-4526
9/NTZ - Neutral Zone Shreveport, LA.	(318)/687-1452
15/DOL - Daytona On-Line, Daytona Beach, FL.	(904)/441-5923
22/BMS - Byte's Mess BBS, West Point, CA.	
23/DKT - Dark Tower BBS, Phoenix, AZ.	(919)/423-4757
25/TAB - Tropical Aquarium BBS, Harrisburg, PA.	
--/EMC - Emerald Castle BBS, Power-Net via Power-Link.	

NISSA NETWORK

##	ID	Name	Phone
28	CBM	]-[ighlander	416-588-0922
26	CCB	Conan's Castle BBS	414-774-6533
23	CHM	CHMAG BBS	215-242-4604
1	CIB	Commodore Image BBS	619-429-8192
22	DAM	Damage Inc.	414-384-6817
35	DFC	Dumbo Flying Circus	414-521-2440
71	ENT	Enterprise 1701-H	619-258-1222
13	HAM	Harrys Asylum	713-471-6503
34	HCL	House Call	919-756-4127
27	LWR	Last Wizard's Realm	215-727-2633
18	MAC	MACKS Klub House	404-439-7350
65	NDB	Niro's Domaine	619-463-9146
16	NTA	Nostalgia	619-560-8203
43	PHB	PowerHouse BBS	713-852-7028
58	POE	Point Of Entry	216-439-7652
36	PPB	Power Plant BBS	414-769-7873
19	TBR	The Black Rose	707-577-6444
46	TCC	The Crystal Castle	714-823-6523
63	TIZ	The Invisible Zone	216-439-7652
8	TPP	The Princes Palace	801-375-2646
47	TRT	Titanic Resort	216-232-1716
66	TSL	The Spotlight	413-599-1713
72	UGB	Underground BBS	713-946-2059
17	WNB	Wirenut's BBS	512-441-1105
30	WWB	Windwraith BBS	713-872-8560
--	NTZ	The Neutral Zone	318-687-1452

Until we chat again, this is BODACIOUS Bo Fain saying so long from Shreveport, Louisiana ... home of *LOADSTAR*, BODACIOUS BBS, Neutral Zone BBS, and the Commodore Club 2000! -- Bo Fain.

READY.
■



What file, PD?

Dr. Wuth's Guide to Safe Fax.

Q. Do I have to be married to have fax?
A. No. Although married people have fax quite often, there are many single people who fax with complete strangers every day.

Q. My parents say they never had fax when they were young and were allowed only to write memos to each other until they were twenty-one. How old do you think someone should be before they can fax?
A. Faxing can be performed at any age, once you learn the proper procedures.

Q. There is a place on our street where you can go and pay for fax. Is this legal?
A. Yes. Many people who have no other outlet for their fax drives must pay a professional when the need for fax becomes too great.

Q. Should you always use a cover when faxing?
A. Unless you are really sure of the one you are faxing, a cover should always be used to insure safe fax.

Q. What happens when I incorrectly do the procedure and I fax prematurely?
A. Don't panic. Many people prematurely fax, especially when they haven't faxed for a long time. Just start over; most people won't mind if you try again.

Q. I have a business and a personal fax. Can my transmissions become mixed up?
A. Being bi-faxual can be confusing, but as long as you use a cover with each one, you won't transmit anything that you're not supposed to.

Q. Lately I have been experiencing nocturnal transmissions. Is this anything to worry about?
A. No. Many people who leave their fax drive turned on experience nocturnal transmissions. It is completely normal.

Q. If I fax something to myself, will I go blind?
A. Not as far as I can see.

READY.
■

R. J. Smulkowski is...

Cyberspace Cowboy

...Crime bill gets tough on hackers... Funeral for a friend: Q-Link pulls the plug... Delphi users speak and staff listens... IRC a seething pit of sociopaths...

Welcome back friends, and hello new readers. Well, it happened. *dieHard* is available at select newsstands. Is this great, or what? A **commodore** magazine is on the rise, rather than fading away. I know a man who has a subscription to *dieHard*, yet he bought a copy off the rack to send a message to the shop's owner that this is a publication which is in demand.

There is a lot more to the crime bill than immediately meets the eye. For instance, the Computer Abuse Amendments Act of 1994. Previous laws were so worded as to protect mainly "federal interest computers" (those machines belonging to a government agency or financial institution). The new wording includes computers "used in interstate commerce." Hmmm... this could cover an awful lot of Internet machines, don't you think? Previously, the standard for prosecution in hacker cases was *intent*. Intent (or lack thereof) has been used with varying degrees of success as a defense argument in several high-profile cases. The new standard, "reckless disregard," should make prosecution's job much easier in future cases. While I would never condone the unauthorized entry to, or distribution of copyrighted materials on any system, I am more than a little troubled by the vagueness of this reckless disregard clause.

October 31st will be a day observed for years to come by more than just a few individuals. We will remember it as the day a little bit of magic left our world, the day Q-Link pulled the plug forever. For a lot of us Q-Link was the first place we ever modemed to. I got the software with my first modem, a shiny new 1660. I knew there was something out there just waiting for me to jack into it, and I was ready. I still remember my second visit to Q-Link. The first was registration, of course, and within minutes of completing the registration formalities a cheerful young lady called back to verify the information I had entered. Ah, but that second call... I sat wide-eyed and open-mouthed saying, "Oh wow!" over and over. What an experience Q-Link was for me! Information, advice, answers, friendship, fun, software... all waiting for me, just a keypress away. I met some terrific people there, and had a great many wonderful times. And now it's just a pleasant memory. And that fantastic library of files? Lost. Gone. Never to be seen in one place at one time again. Q-Link, I will miss you. Rest in peace, my dear friend.

commodore area regulars on Delphi recently made suggestions to staffers, and these suggestions were listened to. The **commodore** area staff now makes an active effort to seek out those people who are still making a contribution to **commodore** computing enthusiasts and invite them to be guest speakers at regularly scheduled on-line conferences. The month of October (Rocktober, as this old hippie prefers to call it) is contest time, with prizes awarded to the individuals uploading the most files to the Delphi **commodore** databases. Another new idea being implemented will be informal conferences hosted by the **commodore** area manager, the lovely Ellen. (Always nice seeing you, Ellen.) The idea behind these informal gatherings is for the users to be able to express concerns or make suggestions about the area. Anyone who has chatted with Ellen knows that it's time to shove a stack of dimes into the modem and hang on -- it's going to be a fun evening. With three conferences a week, file databases growing by leaps and bounds, guest speakers, low rates, and Internet access, Delphi is a tough deal to beat.

Ah, he finally got around to Internet. Well, yes. I had promised that I would be talking about Internet Relay Chat (IRC) this time around. From what I have seen so far, IRC hasn't particularly impressed me. Not that I'm a prude, far from it -- my time in the Marine Corps helped me to build a *power vocabulary*. It's just that the rooms that looked interesting (judging by the rather descriptive names assigned them) weren't. The rooms I checked so far were boring, or dirt, or sometimes boring dirt. I will keep on in my search for exotic IRC happenings and report to you when I find something interesting and/or stimulating.

Until next month, be good to yourselves. And BBS visitors, tell your favorite sysop they're appreciated. Sysops, answer your mail -- let visitors know that you are pleased they chose to spend time on your system. Phone companies, update that bogus 1930s copper-wire technology -- we keep hearing about an information highway, but we're in a rut on your dirt road.

```
READY.
■
```

Back Issues!!!

#1* May '92 *Hardcore* **$3.50**
This is *dieHard*'s premier issue printed out of Brian L Crosthwaite's basement on an MPS 1270 inkjet printer! Highlights: SAVE@ bug, Lots of Pokes and Peeks, Program, and the editorial concept behind *dieHard*.

#2* Jun '92 *Writers, Programmers, Countrymen* **$3.50**
Highlights: word processing tips, GEOS tips, review of **Visible Solar System**, Programs, and **Pokes and Peeks**.

#3* Jul/Aug '92 *Oops!* **$4.50**
Highlights: review of The Final Cartridge III, review of **Turtle Graphics II**, **Puter Mirth**, **PAPSAW**, and Programs.

#4* Oct '92 *Pumpkin* **$3.50**
Highlights: review of ***LOADSTAR***, **PAPSAW**, review of **Pole Position**, **Q&A**s, and Programs.

#5* Nov/Dec '92 *geoIssue* **$3.50**
Highlights: **Commodore Trivia**, **geoTips**, **geoTutorials**, review of **GateWay**, review of **DESKTOP 1.5**, **Q&A**, and the DOS wedge.

#6* Jan '93 *History in 3001* **$2.95**
Highlights: datassette backup, Programs, User Groups, **PAPSAW**, review of Hearsay 1000, **Q&A**, and **Commodore Trivia**.

#7* Feb '93 *Computer Cipher* **$2.95**
Highlights: **geoTips**, review of **The Duel: Test Drive II**, review of **Super Expander 64**, **Q&A**, Programs, and **PAPSAW**.

#8* Mar '93 *Script* **$2.95**
Highlights: review of IconTroller, **geoTips**, **PAPSAW**, review of **Top 20 Solid Gold**, **Q&A**, and Programs.

#9* Apr '93 *The Last Flyer* **$2.95**
Highlights: review of ***Mojo Mag***, **geoTips**, **PAPSAW**, review of **Kickman**, **Q&A**, and Programs.

#10 May '93 *The Adventures of Laser Mag* **$2.95**
This is the first laser printed issue printed on magazine paper. Highlights: **geoTips**, review of *Commodore FORMAT*, **Basic BASIC**, **PAPSAW**, review of the Commodore 1581 disk drive, **Q&A**.

#11Jun/Jul '93 *The Connection!* **$2.95**
Highlights: review of **The Simpsons Arcade Game**, **geoTips**, **Basic BASIC**, **PAPSAW**, review of **Clowns**, and **Q&A**.

#12 Aug '93 *Special PD Issue* **$2.95**
Highlights: **Tips**, review of **Gary Label Maker V4**, review of **Shoot 'Em Up Construction Kit**, **Q&A**, and Programs.

#13 Sep '93 *Plug In!* **$2.95**
Highlights: Qlink news, **Basic BASIC**, hooking up modems, review of **JiffyDOS**, **geoTips**, **Cyberspace Cowboy**, review of **Partner 64**, **Q&A**, and Programs.

#14** Oct '93 *The Horror Issue* **$2.95**
Highlights: **MIDI**, review of **KeyDOS**, review of **Wings of Circe**, **Basic BASIC**, **Cyberspace Cowboy**, review of **Partner 128**, **Q&A**, and Programs.

#15 Nov '93 *Gobble, Gobble*! **$2.95**
Highlights: **CAD for the C64**, **Basic BASIC**, **MIDI**, **Cyberspace Cowboy**, and news.

#16 Dec '93 *Merry Christmas!!* **$2.95**
Highlights: **A Computerist's Christmas**, **REVIEW!**, A Christmas Card in **PRG**, **Telecommunications -- Your Commodore And You, of pink novels, software turntables and forgotten logitheques**.

#17 Jan/Feb '94 *Killer GEOS Issue!* **$3.95**
Highlights: **INPUT;READER$**, **Rarities**, **geoTips**, **GEOS Meets Laser**, **Putting the Impossible on Paper**, **Trader's Corner**, **Archaic Computer**.

#18 Mar '94 *Control Program for Microprocessors!* **$3.95**
Highlights: **INPUT;READER$**, **Rarities**, **CP/M**, **Cyberspace Cowboy**, **Ms. Knombers**, **Trader's Corner**, **Archaic Computer**, **PRG**.

#19 Apr '94 *Special Amigaless Issue!!!* **$3.95**
Highlights: **Have You Seen LOADSTAR Lately?!?**, **Rarities**, **Basic BASIC**, **Cyberspace Cowboy**, **Q&A**, **Trader's Corner**, **Archaic Computer**, **PRG**.

#20 Jun '94 *Hey! This Is Our Two Year Anniversary Issue!!!!* **$3.95**
Highlights: **INPUT;READER$**, **Rarities**, *LOADSTAR* Turns Ten!, **Cyberspace Cowboy**, Jack Blewitt sets Ms. Knombers back on track!, **Trader's Corner**, **Archaic Computer**.

#21 Jul/Aug '94 *Rarities, Rarities, Rarities, and more Rarities!!!* **$3.95**
Highlights: **C128 CP/M**, **8-Bit 4-Pass Color Tutorial**, **8-Bit The Low Cost Computing Alternative**, **PRG**.

#22 Sept '94 *Archaic Computer Comes Of Age.* **$3.95**
Highlights: **Grappling The Great Gooey**, **Rarities**, **Cast in a Veil of Fog**, **DOS Bugs and Quirks**, **Collector's Corner**.

#23 Oct '94 *Digital Nightmare!!!* **$3.95**
Highlights: **Case in Point**, **Grappling The Great Gooey II**, **Archaic Computer**, **PRG**.

Prepayment must accompany all back issue orders. Idaho residents please add 5% sales tax.

These issues were printed with a* ***commodore* *MPS 1270 inkjet and printed by photocopy machines, the original Flyer.*
***This issue is awaiting press time to reprint. Thank you for your patience.*

dieHard
the Flyer for commodore 8bitters

Back Issues!!!

P R G

Welcome to PRG! This month's PRG comes to us from the Public Domain. We believe the all the programs in this month's issue are public domain. If that is not the case, let us know and we'll remove them from our listings.

We have a new system that converts the PRGs from PETASCII/Graphics to the listings found here. The program changes all the listings so that there are key stroke instructions in place of any commodore keyboard graphics characters. We hope this will eliminate mistakes in the listings since the machine will never fail to replace the reverse video heart with [CLR], and other graphics. Sometimes you will see [2 SPACE] and other times, [SPACE][SPACE]. This is just because we missed them in the compression stage of typesetting the program listing. They both mean the same thing, press space twice.

Along the way of getting the program working and converting to ASCII, two characters were overlooked initially. The *British Pound sign* and the *arrow back*. So you may find a back slash (\) or a line (_) in the listings that we missed. The \ is the British Pound and the _ is the arrow back. These, along with the ^ sign have been replaced with word description: [BRITISH POUND], [BACK ARROW], and [UP ARROW]. The \, _ and ^ will not appear in issues after this one since the **PETStrip** program has been fixed.

These programs do run, however, they are presented here as is. We've included any docs that we found on them, if any. Enjoy!

Ladybug (C64)

by SpringRain

Ladybug, eat the leaves. Well, just another PD program, I thought you might enjoy. Press space to eat leaves. :>

```
1 REM LADYBUG[2 SPACE]CHC DISK(194)
   [18 SPACE]PUBLIC DOMAIN:REM 103
100 PRINTCHR$(147):VC=53248
   :MC=54272:REM 76
110 DIMDT%(3,1),BT%(3,3,1),BV(3),
   NT%(37,1),CH%(1),C%(1):REM 101
120 S=((PEEK(53272)AND240)/16)*1024
   :C=55296-S:REM 232
130 FORX=54272TO54296:POKEX,0
   :NEXTX:REM 122
140 POKEVC+32,12:POKEVC+33,12:REM 251
150 FORW=0TO37:FORX=0TO1:READZ
   :NT%(W,X)=Z:NEXTX,W:REM 189
160 GOSUB2000:REM 99
170 L%=27:LF%=28:REM 75
200 PRINTCHR$(147);"[3 CRSR DOWN]
   [2 SPACE]ENTER SKILL
   LEVEL:":REM 50
210 PRINT"[3 CRSR DOWN][5 SPACE]
   [CTRL 9]1[CTRL 0][SPACE]BEGINNER"
   :PRINT"[2 CRSR DOWN][7 SPACE]
   --TO--":REM 72
220 PRINT"[2 CRSR DOWN][5 SPACE]
   [CTRL 9]9[CTRL 0][SPACE]
   ADVANCED":REM 55
230 GETX$:IFX$=""THEN230:REM 230
240 SK=VAL(X$):IFSK<1ORSK>9
   THEN230:REM 223
250 POKEVC+33,1:P1=160:P2=7:PRINT
   CHR$(147):HI=0:BC=0:REM 162
260 FORW=0TO960STEP40:GOSUB3000
   :NEXTW:REM 210
270 FORW=961TO998:GOSUB3000
   :NEXTW:REM 46
280 FORW=999TO39STEP-40:GOSUB3000
   :NEXTW:REM 132
290 FORW=38TO1STEP-1:GOSUB3000
   :NEXTW:REM 129
300 FORY=1TOSK*4+5:REM 234
310 W=INT(RND(1)*836)+82:REM 150
320 IFPEEK(S+W-1)<>32 ORPEEK(S+W)<>32
   ORPEEK(S+W+1)<>32THEN310:REM 49
325 IFPEEK(S+W+40)<>32 OR
   PEEK(S+W-40)<>32THEN310:REM 92
330 P1=BV(INT(RND(1)*4)):P2=6
   :GOSUB3000:NEXTY:REM 155
340 NT=INT(SK*10+10):P1=LF%:P2=5
   :FORY=1TONT:REM 45
350 W=INT(RND(1)*918)+41:IFPEEK(S+W)
   <>32THEN350:REM 11
360 GOSUB3000:NEXTY:REM 153
400 CP=S:REM 76
410 IFCP=S THENI=40:X=1:REM 237
420 IFCP=S+39THENI=-1:X=4:REM 16
430 IFCP=S+960THENI=1:X=2:REM 119
435 IFCP=S+999THENI=-40:X=3:REM 175
440 XP=CP:CP=CP+I:POKE XP+C,7
   :POKEXP,160:POKE CP,L%
   :POKE CP+C,2:REM 129
455 IFPEEK(197)=4THEN900:REM 169
460 KK=-(KK=0):POKE 53272,CH%(KK)
   :IF PEEK(197)=60 THEN 500:REM 17
465 IF PEEK(653)>0 THEN
   GOSUB 1500:REM 138
470 QT=0:FORZ=1TO(10-SK)
   :IFPEEK(197)=60THENQT=1:REM 78
480 NEXTZ:IFQT=0THEN410:REM 150
500 IFCP=SORCP=S+39ORCP=S+960OR
   CP=S+999THEN410:REM 171
505 BC=BC+1:PK=7:REM 154
510 I=DT%(X-1,0):CD=DT%(X-1,1):REM 6
520 Z=32:IFPK=7THENZ=160:REM 22
530 POKECP,Z:POKECP+C,PK:PK=1:REM 152
540 CP=CP+I:Y=PEEK(CP):REM 13
545 KK=-(KK=0):POKE 53272,
   CH%(KK):REM 149
550 IFY=32THEN630:REM 64
560 IFY=LF%THEN600:REM 136
570 IFY=160THEN660:REM 198
580 GOTO700:REM 244
600 GOSUB4000:HI=HI+1:REM 224
630 POKECP,L%:POKECP+C,2:FORZ=1TO
   (20-SK):NEXTZ:IFHI>=NT
   THEN900:REM 169
640 GOTO520:REM 61
660 POKECP,L%:POKECP+C,2:IFI=-40
   THENI=-1:X=4:GOTO410:REM 96
670 IFI=40THENI=1:X=2:GOTO410:REM 2
680 IFI=1THENI=-40:X=3:GOTO410:REM 112
690 I=40:X=1:GOTO410:REM 247
700 Z=9:FORW=0TO3:IFBV(W)=Y
   THENZ=W:REM 39
710 NEXTW:IFZ>3THEN630:REM 109
720 X=BT%(Z,CD-1,0):CP=CP+
   BT%(Z,CD-1,1):GOSUB4100:REM 21
725 IFPEEK(CP)=LF%THENGOSUB4000
   :HI=HI+1:REM 184
730 POKECP,L%:POKECP+C,2:
   GOTO510:REM 153
900 PRINTCHR$(147);"[CTRL 2]
   [2 CRSR DOWN][15 SPACE][CTRL 9]
   GAME OVER![CTRL 0]":POKEVC+33,12
   :POKE198,0:REM 0
910 PRINT"[3 CRSR DOWN][5 SPACE]#
   [SPACE]LEAVES[2 SPACE]=";NT:REM 8
920 PRINT"[CRSR DOWN][5 SPACE]#[SPACE]
   EATEN[3 SPACE]=";HI:REM 87
930 PRINT"[CRSR DOWN][5 SPACE]#[SPACE]
   LUNCHES[SPACE]=";BC:REM 128
940 IFBC=0THENBC=1:REM 5
950 X=(HI-BC)*5+40:X=X-(2*(9-SK))
   :IFX<1THENX=1:REM 143
955 IFHI<10THENX=1:REM 67
960 PRINT"[2 CRSR DOWN][7 SPACE]
   SCORE[3 SPACE]=";X:REM 182
970 PRINT"[3 CRSR DOWN][5 SPACE]PLAY
   AGAIN?[SPACE]([CTRL 9]Y[CTRL 0] OR
   [CTRL 9]N[CTRL 0])":REM 126
980 GETX$:IFX$=""THEN980:REM 72
990 IFX$="Y"THEN200:REM 229
1000 IFX$<>"N"THEN980:REM 120
1010 GOSUB5000:PRINTCHR$(147):REM 132
1020 END:REM 120
1500 FORQQ=0 TO 12:EN=0:REM 48
1510 W=INT(RND(1)*836)+82:EN=EN+1
   :IF EN>25 THEN QQ=12
   :NEXT:RETURN:REM 6
1520 IF PEEK(S+W-1)<>32 ORPEEK(S+W)
   <>32 OR PEEK(S+W+1)<>32
   THEN 1510:REM 160
1530 IFPEEK(S+W+40)<>32 OR PEEK
   (S+W-40)<>32 THEN 1510:REM 82
1540 P1=BV(INT(RND(1)*4)):P2=6
```

```
   :GOSUB 3000:NEXT QQ:REM 229
1550 BC=BC+10:RETURN:REM 89
2000 PRINT"[CRSR DOWN][C= 8][CTRL 9]
   [13 SPACE]L[SPACE]A[SPACE]D[SPACE]
   Y[SPACE]B[SPACE]U[2 SPACE]G
   [13 SPACE][CTRL 0]";:REM 96
2010 PRINT"[2 CRSR DOWN]THE LADYBUG
   RUNS AROUND THE SCREEN[6 SPACE]
   WAITING FOR HER LUNCH.":REM 241
2020 PRINT"[CRSR DOWN]YOU SIGNAL LUNCH
   TIME BY PRESSING[2 SPACE]THE
   [3 SPACE]SPACE BAR.":REM 146
2030 PRINT"[CRSR DOWN]END THE GAME BY
   EATING ALL THE LEAVES ORBY
   PRESSING THE [CTRL 9]F1
   [CTRL 0]KEY.":REM 142
2040 PRINT"[CRSR DOWN]EAT AS MANY
   LEAVES AS POSSIBLE PER LUNCH FOR
   A HIGHER SCORE.":REM 54
2050 PRINT"[CRSR DOWN]ADD MORE
   OBSTACLES BY PRESSING[CTRL 9]
   SHIFT[CTRL 0]":REM 15
2060 GOSUB5000:REM 198
2070 FORX=0TO3:FORY=0TO1:READZ
   :DT%(X,Y)=Z:NEXTY,X:REM 221
2080 FORW=0TO3:FORX=0TO3:FORY=0TO1
   :READZ:BT%(W,X,Y)=Z
   :NEXTY,X,W:REM 113
2090 FORW=0TO3:READZ:BV(W)=Z
   :NEXTW:REM 68
2100 PRINT "[CRSR DOWN]JUST 20 SECONDS
   WHILE I GET MYSELF IN[3 SPACE]
   SHAPE . . .":REM 223
2120 CH%(0)=12:CH%(1)=14:FOR I=0
   TO 1:C%(I)=1024*CH%(I):NEXT:REM 41
2130 POKE 56334,PEEK(56334)AND254
   :POKE 1,PEEK(1)AND251:REM 116
2140 FOR I=0 TO 1:FOR J=8 TO 215
   :POKE C%(I)+J,PEEK(VC+J)
   :NEXTJ:REM 210
2150 FOR J=C%(I)+216 TO C%(I)+271
   :READZ:POKEJ,Z:NEXTJ:REM 171
2160 FOR J=280 TO 511:POKE C%(I)
   +J,PEEK(VC+J):NEXTJ:REM 49
2170 FOR J=1024 TO 1487:POKE C%
   (I)+J,PEEK(VC+J):NEXTJ,I:REM 41
2180 POKE 1,PEEK(1)OR4:POKE 56334,
   PEEK(56334)OR1:REM 136
2190 FOR I=0 TO 1:CH%(I)=(PEEK(
   53272)AND240)ORCH%(I):NEXT:POKE
   53272,CH%(0):REM 32
2200 PRINT"[CRSR DOWN][8 SPACE](PRESS
   ANY KEY TO START)":REM 194
2210 GETX$:IFX$=""THEN2210:REM 201
2220 RETURN:REM 23
3000 POKES+W,P1:POKES+C+W,P2
   :RETURN:REM 210
4000 REM *** SONG TO EAT
   LEAVES BY:REM 177
4010 POKEMC+24,15:POKEMC+4,129:REM 249
4020 FORV1=50TO10STEP-10
   :POKEMC+1,V1:NEXTV1:REM 188
4030 POKEMC+4,128:FORV1=1TO4
   :NEXTV1:REM 189
4040 POKEMC+24,0:REM 106
4050 RETURN:REM 84
4100 REM *** SONG TO HIT
   BARRIERS BY:REM 228
4110 POKEMC+24,15:POKEMC+4,17:REM 47
4120 POKEMC+1,20:FORV1=1TO40
   :NEXTV1:REM 226
4130 POKEMC+4,16:FORV1=1TO10
   :NEXTV1:REM 252
4140 POKEMC+24,0:REM 142
4150 RETURN:REM 184
5000 REM *** PLAY THE SONG:REM 225
5010 POKEMC+5,79:POKEMC+6,129
   :POKEMC+0,0:POKEMC+1,0
   :POKEMC+24,15:REM 125
5020 FORX=0TO37:Y=NT%(X,0)
   :Z=INT(Y/256):REM 210
5030 Y=Y-Z*256:POKEMC+0,Y
   :POKEMC+1,Z:REM 211
5040 POKEMC+4,17:FORY=1TO
   NT%(X,1)*70:NEXTY:REM 41
5050 POKEMC+4,16:FORY=1TO15:NEXTY,X
   :POKEMC+24,0:POKEMC+0,0
   :POKEMC+5,15:REM 207
5055 POKE MC+6,15:REM 212
5060 RETURN:REM 34
9000 DATA6430,2,7217,2,7217,2,8583,3
   ,7217,1,6430,2,5728,1,5407
   ,2,7217,2:REM 125
9010 DATA7217,2,7217,2,8583,2,8101,2
   ,7217,2,6430,2,7217,2,5728
   ,2,5407,2,5728,2:REM 147
9020 DATA6430,2,5728,2,7217,1,5407,2
   ,6430,1,4817,2,5407
   ,2,5728,2,6430,2:REM 171
9030 DATA7217,2,8101
   ,2,8583,2,6430,1
   ,6430,2,7217,2
   ,5728,2,5407,1
   ,4291,2
   ,4291,1:REM 28
10000 DATA1,3,-40,1
   ,-1,4,40,2:REM 15
10010 DATA4,40,3,-1
   ,2,-40
   ,1,1:REM 253
10020 DATA4,40,1,1,3
   ,-1,2,-40:REM 245
10030 DATA1,1,2,-40
   ,3,-1,4,40:REM 57
10040 DATA3,-1,2,-40
   ,4,40,1,1:REM 195
10050 DATA29,30,31
   ,33:REM 105
63000 DATA0,36,24
   ,190,125,24
   ,36,0:REM 149
63001 DATA12,24,111
   ,223,95,46
   ,24,16:REM 239
63002 DATA1,3,3,7
   ,15,31,127
   ,255:REM 51
63003 DATA128,192
   ,192,224,240,248
   ,254,255:REM 80
63004 DATA255,254,248,240,224
   ,192,192,128:REM 121
63005 DATA0,0,0,0,0,0,0,0:REM 35
63006 DATA255,127,31,15,7,3,3,1:REM 62
63007 DATA8,16,90,60,60,90,8,16:REM 45
63008 DATA48,24,111,223,95
   ,46,24,8:REM 64
63009 DATA0,1,7,15,31,63,63,127:REM 60
63010 DATA0,128,224,240,248,252
   ,252,254:REM 240
63011 DATA254,252,252,248,240
   ,224,128,0:REM 232
63012 DATA0,0,0,0,0,0,0,0:REM 40
63013 DATA127,63,63,31,15
   ,7,1,0:REM 200
```

.....end of line.

Moon Phases (PET/CBM, VIC20, C16, plus/4, C64, C128, B128/256)

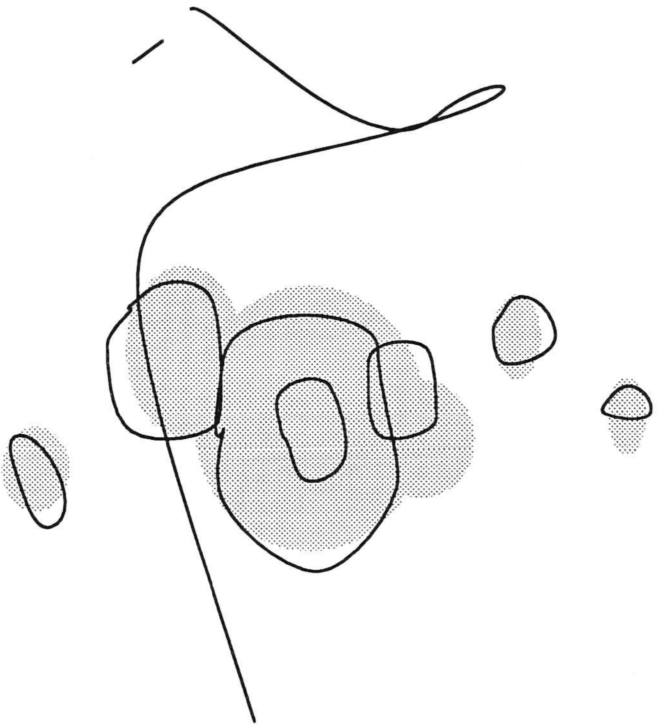
by unknown

This one will run on all commodore 8-bit equipment. The checksums (:REM xxx) have been included for C64 owners.

```
1 PRINT"[CLR]":REM 229
2 PRINT"[CTRL 2]":REM 134
3 D3=0:REM 133
5 INPUT"YEAR:";Y:REM 145
6 INPUT"MONTH(1-12):";MO:REM 95
7 INPUT"DAY(1-31):";DA:REM 184
8 INPUT"HOUR(1-24):";H:REM 232
9 INPUT"MINUTE(0-59):";MI:REM 179
10 Z=MO:REM 47
```

```
11 Q=H:REM 125
12 E=MI:REM 94
13 IF MO=1 THEN MO=0:REM 191
20 IF MO=2 THEN MO=31:REM 65
30 IF MO=3 THEN MO=59:REM 40
40 IF MO=4 THEN MO=90:REM 104
50 IF MO=5 THEN MO=120:REM 155
60 IF MO=6 THEN MO=151:REM 43
70 IF MO=7 THEN MO=181:REM 206
80 IF MO=8 THEN MO=212:REM 11
90 IF MO=9 THEN MO=243:REM 35
100 IF MO=10 THEN MO=273:REM 76
110 IF MO=11 THEN MO=304:REM 140
120 IF MO=12 THEN MO=334:REM 172
121 MI=MI/60:H=H+MI:D1=H/24:REM 246
124 REM----1 DAY FOR EACH
   LEAP YEAR----:REM 85
125 X=(Y-1980)/4:REM 197
126 IF X=INT(X) THEN D4=1:REM 252
127 REM[32 -]:REM 78
130 D2=MO+DA+D1:REM 66
140 D3=(Y-1980)*365+D2+D4:REM 191
149 REM[32 -]:REM 88
150 REM SUNS POSITION:REM 123
151 REM[32 -]:REM 86
160 N=(360*D3)/365.2422:REM 195
170 IF N>360 THEN N=N-360:REM 72
180 IF N>360 THEN GOTO 170:REM 149
185 IF N<0 THEN N=N+360:REM 251
186 IF N<0 THEN GOTO 185:REM 83
190 M=N+278.833540-282.596403 :REM 8
```

```
191 IF M<0 THEN
    M=M+360
    :REM 209
200 EC=((360
    *.016718)
    /3.1415927
    ):REM 202
210 EC=EC*SIN((M
    *3.1415927)
    /180):REM 116
220 LS=N+EC
    +278.833540
    :REM 204
230 IF LS>360 THEN
    LS=LS-360
    :REM 158
235 IF LS<0 THEN
    LS=LS+360
    :REM 18
237 REM[32 -]
    :REM 32
240 I=13.1764*D3
    +64.975464:REM 0
250 IF I>360 THEN
    I=I-360:REM 132
255 IF I>360 THEN
    GOTO 250:REM 54
260 IF I<0 THEN
    I=I+360:REM 87
265 IF I<0 THEN
    GOTO 260:REM 194
```



```
270 MM=I-0.1114041
    *D3-349.383063
    :REM 63
280 IF MM>360 THEN
    MM=MM-360
    :REM 208
290 IF MM<0 THEN
    MM=MM+360
    :REM 73
300 N=151.950429
    -0.0529539*D2
    :REM 228
310 IF N>360 THEN
    N=N-360:REM 220
320 IF N<0 THEN
    N=N+360:REM 99
330 EV=1.2739*SIN
    ((2*(I-LS)-MM)
    *3.141593
    /180):REM 238
340 AE=.1858*SIN(M
    *3.1416
    /180):REM 106
350 A3=.37*SIN(M
    *3.1416/180)
    :REM 220
360 MM=MM+EV-AE
    -A3:REM 202
370 EC=6.2886*
    SIN(MM*3.1416
    /180):REM 183
380 A4=.214*SIN(2
    *MM*3.1416
    /180):REM 196
```

```
390 I=I+EV+EC-AE+A4:REM 148
400 V=.6583*SIN((2*(I-LS)*3.1416
   )/180):REM 189
410 I=I+V:REM 181
419 REM[5 -]MOONS PHASE[11 -]:REM 198
420 D=I-LS:REM 9
430 F=.5*(1-COS(D*3.1416/180)):REM 153
431 F=INT(F*100):REM 151
432 PRINT:REM 21
440 PRINT"THE MOON IS";F;"PERCENT
   FULL":REM 84
441 REM[27 -]:REM 182
442 PRINT"ON";Z;"/";DA;"/";Y;"AT"
   ;Q;":";E:REM 108
443 PRINT:REM 32
450 PRINT"WOULD YOU LIKE
   ANOTHER?(Y/N)":REM 63
460 GET A$:REM 59
465 IF A$=""THEN 460:REM 10
470 IF A$="Y" THEN GOTO 3:REM 196
480 END:REM 98
                    .....end of line.
```

Trains (plus/4)

by unknown

Enter this one carfully, it has a lot of graphics. Wherever you see a back slash (\), type the British pound sign.

```
100 DIMA$(12),P%(18),T%(8,3):CM=54272
110 POKE65301,0:POKE65305,5
150 I=RND(-TI):GOSUB9000
160 F=0:M=1:U=1:X=160:Y=81:Z=3072
200 D$="[HOME][23 CRSR DOWN]"
```

```
210 A$(0)="[SPACE][C= *][CTRL 9][C= *]
   [CRSR DOWN][3 CRSR LEFT][C= *]
   [CTRL 0][SPACE][C= *][CRSR DOWN]
   [3 CRSR LEFT][C= *][CTRL 9][C= *]
   [CTRL 0][SPACE]"
220 A$(1)="[CRSR DOWN][CTRL 9][C= *]
   [CTRL 0][SPACE][CTRL 9]*
   [CRSR DOWN][3 CRSR LEFT][CTRL 0]
   [C= *][CTRL 9][C= *][CTRL 0]
   [SPACE]"
230 A$(2)="[CRSR RIGHT][C= *][CTRL 9]
   [C= *][CRSR DOWN][2 CRSR LEFT]
   [CTRL 0][SPACE][C= *][CRSR DOWN]
   [2 CRSR LEFT][CTRL 9]*[CTRL 0]
   [SPACE]"
240 A$(3)="[CTRL 9][SHIFT \][CTRL 0]
   [SHIFT \][CRSR DOWN][2 CRSR LEFT]
   [SHIFT \][SPACE][CRSR DOWN]
   [2 CRSR LEFT][SPACE][CTRL 9]*"
250 A$(4)="[CTRL 9][SHIFT \][CTRL 0]
   [SHIFT \][SPACE][CRSR DOWN]
   [3 CRSR LEFT][SHIFT \][SPACE]
   [CTRL 9]*"
260 A$(5)="":A$(7)=""
270 A$(6)="[SPACE][CTRL 9]*[CTRL 0]
   [SPACE][CRSR DOWN][3 CRSR LEFT]
   [CTRL 9]***[CTRL 0][CRSR DOWN]
   [3 CRSR LEFT][SPACE][CTRL 9]*
   [CTRL 0][SPACE]"
280 A$(8)="[SPACE][C= *][CTRL 9]
   [C= *][CRSR DOWN][2 CRSR LEFT]
   [CRSR LEFT]*[CTRL 0][SPACE][C= *]"
290 A$(9)="[SPACE][CTRL 9]*[CRSR DOWN]
   [2 CRSR LEFT][C= *][CTRL 0]
   [SPACE][CRSR DOWN][2 CRSR LEFT]
   [C= *][CTRL 9][C= *]"
300 A$(10)="[CRSR RIGHT][CTRL 9]*
   [CTRL 0][SPACE][CRSR DOWN]
   [2 CRSR LEFT][SPACE][CTRL 9]
   [SHIFT \][CRSR DOWN][2 CRSR LEFT]
   [SHIFT \][CTRL 0][SHIFT \]"
310 A$(11)="[CRSR DOWN][CTRL 9]*
   [CTRL 0][SPACE][CTRL 9][SHIFT \]
   [CRSR DOWN][3 CRSR LEFT][CTRL 0]
   [SPACE][CTRL 9][SHIFT \][CTRL 0]
   [SHIFT \]"
320 A$(12)="[CTRL 9][SHIFT \][CTRL 0]
   [SHIFT \][SPACE][CRSR DOWN]
   [2 CRSR LEFT][CRSR LEFT][SHIFT \]
   [SPACE][CTRL 9][SHIFT \]
   [CRSR DOWN][3 CRSR LEFT][CTRL 0]
   [SPACE][CTRL 9][SHIFT \]
   [CTRL 0][SHIFT \]"
330 Z$="[HOME]":FORI=1TO39:Z$=Z$+" "
340 NEXT:Z$=Z$+"[HOME]"
350 IFV<.2THENA$(2)="[CRSR RIGHT]
   [CTRL 9][SPACE][CTRL 0][SPACE]
   [CRSR DOWN][2 CRSR LEFT][CTRL 9]
   [SPACE]*[CRSR DOWN][2 CRSR LEFT]
   [SPACE][CTRL 0][SPACE]"
360 IFV<.4THENA$(8)="[SPACE][CTRL 9]*
   [CTRL 0][SPACE][CRSR DOWN]
   [3 CRSR LEFT][CTRL 9][3 SPACE]"
400 FORI=1TO8:T%(I,1)=203:T%(I,2)=-1
410 T%(I,3)=X:NEXT
```

```
500 PRINT"[CLR][CRSR DOWN]":FORI=1TO3
510 GOSUB7000:FORJ=1TO6
520 GOSUB7100:PRINT"[CTRL 9]
   [SPACE]":NEXTJ,I
530 GOSUB7000
540 POKE3153,233:POKE3189,223
550 POKE3993,95:POKE4029,105
560 FORI=1TO10:READJ:POKEZ+J,96:NEXT
600 FORI=65TO82:K$=CHR$(I)
610 GOSUB7200:IFP%(A)=5THENNEXT
620 IFRND(1)<.5THENP%(A)=12-P%(A)
630 PRINT"[CRSR UP]";K$;"[CRSR DOWN]
   [CRSR LEFT]";A$(P%(A)):NEXT
640 PRINT"[HOME][5 CRSR DOWN]
   [2 CRSR RIGHT][CTRL 9][2 SPACE]
   [CTRL 0][CRSR UP][C= @][CRSR DOWN]
   [CRSR LEFT][ARROW BACK][C= G]
   [CRSR DOWN][2 CRSR LEFT][C= T]"
650 B=TI
1000 T=TI
1010 GETK$:IFK$<"A"ORK$>"R"THEN2000
1020 GOSUB7200:P%(A)=12-P%(A)
1030 PRINTA$(P%(A))
2000 D=T%(U,2):P=Z+T%(U,1):K=T%(U,3)
2010 IFK=XTHEN2050
2020 IFK=YORK=170ORK=32THEN6000
2040 D=40/D:IFKAND32THEND=-D
2050 T%(U,2)=D:POKEP,T%(U,3)
2060 IFPEEK(P+D)=96THENT%(U,2)=
   SGN((UAND1)-.5)*40/D:GOTO2000
2070 POKEP+CM,1:P=P+D:T%(U,3)=
   PEEK(P):POKEP,Y:POKEP+CM,7
2080 T%(U,1)=T%(U,1)+D
2090 FORI=1TO180/M-7*M:NEXT
2100 U=U+1:IFU>MTHENU=1
2110 IFTI-T=<800*(1+RND(1))THEN1010

2115 IFTI-B>14400
   THEN6300
2120 IFFTHEN5200
2130 IFRND(1)<VTHEN
   GOSUB5000
2140 M=M-(M<N)
   :GOTO1000
4000 FORI=0TO12:PRINT"
   [CRSR UP]";TAB(I)K$
4010 FORJ=1TO110
   :NEXTJ,I
4020 PRINT:RETURN
4500 GETK$:IFK$<>
   "[SPACE]"THEN4500
4510 PRINT"[CLR]";:RETURN
5000 Q=6-5*(RND(1)<.5)+INT(3*RND(1))
5010 K$=CHR$(Q+64):F=1
5020 PRINTZ$;" POINTS AT[SPACE]";K$;
   "[SPACE]CLOSING DOWN SOON
   [2 CRSR DOWN]"
5030 PRINT"[8 CRSR RIGHT]A
   [8 CRSR RIGHT]B[8 CRSR RIGHT]C"
5040 GOSUB7200:PRINT"[CRSR UP]"
   ;K$:RETURN
5200 PRINTZ$;:IFF=2THEN5400
5210 A=Q:GOSUB7205:PRINTA$(6)
5220 P%(A)=6:F=2:GOTO1000
5400 F=0:A=Q:P%(A)=0
5410 PRINT"POINTS NOW CLEAR"
```

```
5420 GOSUB7205:PRINTA$(0):GOTO1000
6000 B=INT((TI-B)/60)
6010 PRINTZ$;"CRAAAASH !!!!!"
6020 S=37:FORI=0TO9:RESTORE:FORJ=1TO9
6030 READC:POKEP+C,S+I:NEXTJ,I
6040 FORI=1TO4000:NEXT
6050 PRINT"[CLR]YOU SURVIVED
    FOR";B;"SECONDS"
6060 PRINT"[2 CRSR DOWN]YOUR SCORE
   IS";INT(100*(B/240)^(1-V));"%"
6070 PRINT"[2 CRSR DOWN]PLAY
   AGAIN (Y/N)"
6080 GETK$:IFK$="N"THENEND
6090 IFK$<>"Y"THEN6080
6100 RESTORE:GOSUB9500:GOTO160
6300 FORI=0TO2000:NEXT
6310 PRINT"[CLR]YOU LASTED OVER FOUR
   MINUTES!!![2 CRSR DOWN]"
6320 PRINT"DOES THE S. P. RAILWAY KNOW
   ABOUT YOU ?"
6330 GOTO6070
7000 PRINT"[CRSR RIGHT]";:FORJ=1TO37
7010 PRINT"[CTRL 9][SPACE]";
   :NEXT:PRINT:RETURN
7020 S=36:FORI=0TO9:RESTORE:FORJ=1TO9
7030 READC:POKEP+C,S:NEXTJ
7040 S=79-S:NEXTI
7100 PRINT"[CRSR RIGHT]";:FORK=1TO4
7110 PRINT"[CTRL 9][SPACE][CTRL 0]
   [8 SPACE]";:NEXT:RETURN
7200 A=ASC(K$)-64
7205 R=INT(A/5):C=9*(A-5*R)
7210 PRINTLEFT$(D$,2+7*R);SPC(C);
7220 RETURN
8000 DATA -41,-40,-39,1,41,40,39,-1,0
8010 DATA 1,1,5,5,5,0,0,0,5

8110 DATA 2,5,0,5,3,5,4,5,4
8200 DATA 1,1,1,5,5,0,5,0,3
8210 DATA 2,0,0,5,5,5,5,4,4
8300 DATA 1,1,1,5,2,0,0,0,3
8310 DATA 2,0,0,0,3,5,4,4,4,0
8400 DATA 50,59,68,200,360,398
8410 DATA 640.678,970,979,988
9000 PRINT"[CLR][4 CRSR DOWN][CTRL 2]"
9010 K$="[4 SPACE]TRAINS":GOSUB4000
9020 K$="[4 SPACE][6 C= T]"
   :GOSUB4000:PRINT
9030 K$=" BY J.AUGHTON":GOSUB4000
9040 PRINT"[5 CRSR DOWN]ALWAYS PRESS
   THE SPACE BAR WHENEVER YOU"
9050 PRINT"[CRSR DOWN][SPACE]ARE READY
   TO PROCEED TO THE NEXT PAGE"
```

```
9060 GOSUB4500
9310 PRINT"[CRSR DOWN]TRY TO CONTROL
   THE TRAINS AS THEY GO[CRSR DOWN]"
9320 PRINT"ROUND THE SYSTEM.[2 SPACE]
   EACH OF THE POINTS[CRSR DOWN]"
9330 PRINT"IS LABELLED WITH A LETTER
   A-R.[2 SPACE]YOU CAN[CRSR DOWN]"
9340 PRINT"SWITCH THE POINTS BY
   PRESSING THE KEY[CRSR DOWN]"
9350 PRINT"HAVING THE SAME
   LETTER.[SPACE]KEEP THEM MOVING"
9360 PRINT"AS LONG AS YOU CAN!!
   [2 CRSR DOWN]"
9370 PRINT"IN THE EVENT OF ANY
   ACCIDENTS, THE GAME[CRSR DOWN]"
9380 PRINT"STOPS AND YOUR SCORE IS
   GIVEN.[CRSR DOWN]"
9390 PRINT"AT IRREGULAR INTERVALS,
   SOME POINTS MAY[CRSR DOWN]"
9400 PRINT"CLOSE FOR A WHILE FOR
   REPAIRS.[2 SPACE]KEEP AN
   [CRSR DOWN]"
9410 PRINT"EYE ON THE TOP OF THE
   SCREEN FOR DETAILS"
9420 GOSUB4500
9500 PRINT"[2 CRSR DOWN]CHOOSE
   DIFFICULTY LEVEL 1,2 OR 3
   [2 CRSR DOWN]"
9505 PRINT"1=EASY...3=HARD...
   --YOUR CHOICE";
9510 INPUT"[2 CRSR RIGHT]1
   [3 CRSR LEFT]";K$:V=ASC(K$)-48
9520 IFV<1ORV>3THEN9505
9530 FORI=1TO9+18*(V-1):READS:NEXT
9540 FORI=1TO18:READP%(I):NEXT
9550 FORI=0TO18*(3-V):READS:NEXT
9560 N=2+2*V:V=V/7:RETURN
```

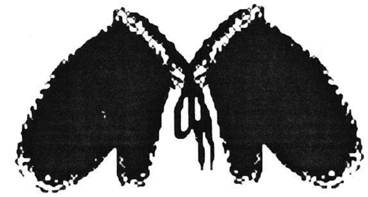
.....end of line.

Mandelbrot Gen (C128)

by Fractelle

```
100 REM  MANDELBROT SET GENERATOR
110 REM     BROUGHT TO YOU BY
120 REM         FRACTELLE
130 REM
140 REM  PATIENCE IS A VIRTUE IF
150 REM  WANT TO SEE THIS PROGRAM
160 REM      RUN ITS COURSE
170 REM
180 REM  FOR MAXIMUM SPEED, STOP
190 REM  THE PROGRAM AND HIT F1 KEY
200 REM  COMPUTER WILL GO INTO FAST
210 REM  MODE.  STOP PROGRAM AND HIT
220 REM  F2 KEY TO RESUME AT SLOW
230 REM          SPEED.
240 REM
250 REM  ANY COMMENTS ON SPEEDING THIS
260 REM  THING UP WOULD BE GREATLY
270 REM  APPRECIATED.
280 REM
290 REM  FOR MORE INFO SEE AUGUST 1985
300 REM  ISSUE OF SCIENTIFIC AMERICAN
310 KEY2,"SLOW:CONT"+CHR$(13)
320 KEY1,"FAST:CONT"+CHR$(13)
330 POKE53281,0:POKE53280,0
340 FO=4.0:T=2.0
350 R%=41
360 P%=1
370 DIM R (160)
380 DIM I (200)
390 R1= -2
400 I1= -1.25
410 G=   2.6
420 RG=G/160
430 IG=G/200
440 FORX=0TO159
450 R(X)=R1
460 R1=R1+RG
470 NEXTX
480 FORX=199TO0STEP-1
490 I(X)=I1
500 I1=I1+IG
510 NEXT X
520 X%=0:Y%=0
530 GRAPHIC3,1:SCALE0
540 COLOR2,3:COLOR3,7
   :COLOR1,6:COLOR0,1
550 ZI=.:ZR=.
560 IN%=.
570 CI=I(Y%)
   :CR=R(X%)
580 IFIN%>R%
   THEN670
590 ZE=ZR
600 ZR=CR+((ZR*ZR)
   -(ZI*ZI))
610 ZI=CI+(T
   *ZI*ZE)
620 S=(ZI*ZI)
   +(ZR*ZR)
630 IFS<FOTHENIN%
   =IN%+P%:GOTO580
640 IFIN%<13THEN DRAW2,X%,Y%
   :GOTO670
650 IFIN%<27THENDRAW1,X%,Y%:GOTO670
660 IFIN%<R%THENDRAW3,X%,Y%:GOTO670
670 X%=X%+P%
680 IFX%=160THENX%=0:Y%=Y%+P%
690 IFY%=200THENSLOW:GOTO710
700 GOTO550
710 GOTO710
```

.....end of line.



Q & A

The source for this month's Q & A comes from our circulations department. These are questions asked by many who write or call. We have been very busy and felt it might be a greater service to address these frequently asked questions, by saving those who want to know some postage, a call, and hopefully some time.

Q: Why is my *Spinner* late?
A: The *Spinner* project is actually a separate entity from the *Flyer*. However, the same people work on both. The *Spinner* originally started out being about two weeks behind the magazine. As both the *Spinner* and the magazine evolved, things got a little more complicated. We once tried shipping the *Spinner* with the magazine, but quickly discovered that all the high-tech machines didn't deal very well with little quirks like a disk and sleeve inside the magazine. Remember that we are hand-copying 2000 disks. This takes time and people power. We haven't forgotten you, we are merely overwhelmed with all the interest shown in the *Flyer* and the *Spinner*. Going bi-monthly will help us keep things on a regular schedule, although at this time we are not sure of what this schedule will actually be.

Q: There isn't very much new software out there for **commodores**. How much will it cost me to subscribe to the *Spinner*?
A: The *Spinner* costs $45.00 a year by itself. If you subscribe to both *dieHard* and the *Spinner*, a year will cost you $49.97.

Q: I'm new to **commodores** and I was wondering how much back issues of the *Spinner* are?
A: Back issues of the *Spinner* are $5.00, but if you want them, get them soon because, due to the cost of disks and production, the price will be going up!

Q: I've just subscribed to your magazine, but I haven't received my first issue yet. I'm mad! What's taking so long?
A: It takes 4-8 weeks to get your first one. You should be receiving your first issue soon.

Continued on page 35

Trader's Corner

Got something to trade? Need something? Try here. Maybe one of our readers has just what you're looking for. Or perhaps they want what you have. Trader's Corner is free to subscribers looking to trade or buy only. TCs will be listed for one issue only. Classified ads are available for $0.50 per word. Addresses of TC participants are provided for your convenience in responding directly to them. All disks must be originals. Any backup copies may be traded, provided the original accompanies them.

Wanted: Transactor Magazines, Commander Magazines. Cartridges for Plus/4, C16, VIC20. 4040 system disks. #000000, BLC, 816 W. Bannock Street, Suite 502, Boise, ID, 83702-5850.

To Trade: C64 and 64c (no power supply), also 1541 II w/PS, 1571, (2)1541, MPS-801, Gemini 10X printer, NEC composite color monitor, and some software with original manuals and boxes. **Wanted:** any of the following: NLQ printer, REU, RGB monitor, Amiga hardware and software, and modem (2400+). Rod Beyer, 41 Maplewood Terra., Box B10, Abbotsford, WI, 54405.

Wanted: The Final Cartridge III. David Salazar, 3922 Hastings, El Paso, TX, 79903-1324.

To Trade: have -- 128 Machine Language for Beginners, Mastering Disk Operations on the Commodore 128, Commodore 128 Assembly Language Programming, The Official GEOS Programmer's Reference Guide, Commodore 128 Programming Secrets, Your Commodore 128, CP/M (64) cart., Super Pascal, 1571 Internals, The Voice Messenger speech synthesizer with Easy Speech and Intelligent Talking Terminal. Will trade for: back issues of Run, Compute Gazette, MicroCookbook Prog. by Commodore, 1351 mouse, CSM Newsletter Compendium, or ????. Tamara L. Tarver, 1136 LaClede, Sheridan, WY, 82801.

Wanted: SwiftCalc 128 w/Sideways, Millionaire (Blue Chip), Tycoon (Blue Chip), nonworking MPS-801 printer. Dennis Ward, 650 Mathis Road, Cairo, GA, 31728.

Wanted: Geneology program for the 128. L. Estelle Heron, 751 Connie Dr., Lake, MI, 48632.

To Trade: C64 commercial programs, most have original boxes. Send list. Randy Jenkins, 6224 Lafayette Rd., Medina, OH, 44256.

To Trade: Have 5 C64 commodore computers. One in operating order. 4 have problems. All complete. Also, two power supplies for C64 (both in good operating condition.). What have you?? Ralph Greenhalgh, 665 Sanford Rd., Westport, MA, 02790.

Wanted: User manual for Commodore MPS-1200 printer. Jack Dodge, 6003 Yucca Dr., Ft. Pierce, FL, 34982

Wanted: Manual for Commodore 128D. Must be complete, or info on where to aquire one. Also, good used 128 software. Daniel De Marco, 8 Florence St., Auburn, NY, 13021-4902.

Wanted: Looking for a copy of "Create with Garfield". I believe there are two versions. Would like the deluxe version for the C64. Frank J. Morlan, 8439 S. LeClaire Av., Burbank, IL, 60459.

To Trade: I have five Vic-20s plus numerous cartridges and tapes plus a C64/plus 4 to trade for a Star NX-10 or 10c, Panasonic, or Epson printer plus interfaces Super Graphic or comparable. A Star NX-1000 or 1000c is ok, too. Plus I have several years worth of Compute's Gazette. Send offers to: Thomas A. Hollinger, 3708 St. Rt. 571 (west), Greenville, OH, 45331-3233.

Classifieds

The Amazing MAZE MAGAZINE -- the world's only desk-top published magazine devoted exclusively to mazes. Featuring many mazes generated by the Commodore 64 and little-known maze artists. Bimonthly, $15/year. Send check (made out to Ken Stiles) to: Ken Stiles, 17-H2 North St., Manchester, MA 01944. Also looking for maze artists.

Want Jiffy-DOS in your 1571 -- I get. $20 Labor + DOS chip. New. U-ship to: Olive Sales & Service, 611 E. 12th, Smackover, Arkansas, 71762.

For Sale: Surplus of 64 and 128 hardware and software (no games). Send self addressed stamped envelope for list. Adolph Evans, PO Box 182, W Friendship, MD, 21794.

For Sale: 1351 Mouse $20.00, 1541 ll Disk Drive $45.00 OBO, CMD/PPI RAMDrive w/2MEGs $180.00, Micro R&D Mircografix MW 350 Printer Interface (NEW) w/8K RAM $40.00, C64 Computer (Needs work) $40.00, 2-1541 Disk Drives (Need alignment) $30.00 EA., OkiMate 10 Color printer w/interface-Extra Ribbons-150 Meters of paper $28.00, 3-"WICO" BAT Joysticks (Almost indestructable) $8.50 EA.. MANY BOOKS!: Write for a list. All items are Postage Paid. Contact: Alex McNeal, 4894 Chandler Court, Denver, CO, 80239.

UNUSUAL 64 SOFTWARE. GREAT FOREIGN-AMERICAN Utilities, Graphics, Hacker, Ham and Arcade Games. 25 Adult Disks -- Full disk sides $2 to $5. $0.29 stamp gets new catalog. Home-Spun Software, POB 1064DH, Estero, FL. 33928.

Limited number of refurbished Commodore 128D computers with built-in 1571 disk drive and detachable keyboard. No manuals. 30 day guarantee. $179 + $10 shipping (continental U.S.). Huge selection of new and used Commodore 64 and 128 hardware, software, and accessories. Many hard to find items. Some Amiga, CDTV, VIC, IBM, Apple and Macintosh also. Excellent prices. $1 for BIG list: Computer Bargain Store, 3366 South 2300 East. Salt Lake City, Utah, 84109. Voice (801) 466-8084 [3:00-6:30 P.M. Mountain Time Zone]. FAX (801) 486-9128 [24 hours].

Happy
New Year

Blue Marsh ad
Do NOT use this page!

Q & A *Continued from page 32*

Another reason you might be experiencing some delays: we publish two bi-monthly issues a year, January/February and July/August. This year we also skipped the May issue due to the fact that we needed the extra time to get ahead because of our growth to newsstands. This was addressed when it happened. All current subscriptions were extended to account for the lost month. So, if you subscribed during one of these periods, you may have experienced a little extra delay.

Q: What's up with the October '93 issue of *dieHard*??? I've been waiting several months after ordering it as a back issue. I eagerly go to my mailbox every day and come back with empty hands and a heavy heart. Help!

A: Cheer up! It'll be there soon. It may be a month or two yet. You see, we like to think we're special. Instead of running out of back issues and telling you, "Too bad!", we will reprint our back issues as needed. Unfortunately, our printer is as busy as we are and we have not been able to schedule a time to get it reprinted yet. We appreciate your patience in this matter.

Q: I recently re-subscribed to your magazine and then things started getting squirrelly! I was receiving duplicate issues and bills were coming in saying I owed you for this and that. I'm beginning to wish I hadn't re-subscribed. What is the matter?

A: Basically, there has been a duplication in our files. We can take care of the problem, but the best solution lies in your hands. When contacting our office for any reason, please be sure to include your subscriber number on any correspondence. It should be on your mailing label and look something like this: C999999. Also, if you are re-subscribing or extending your subscription, it is helpful to make a note of that on your correspondence, especially if it is a subscription card from the magazine. If you are receiving duplicate issues, give us a call or drop us a line with your subscriber number and we'll straighten out your account. When calling, please be sure to leave a phone number where you can be reached. Have patience as it may be a day or two before we are able to return your call. We can be reached at (208) 383-0300.

Got any questions about your commodore? Writeus at: dieHard Q & A, P.O.Box 392, Boise, ID, 83701-0392. Be sure to tell us everything you can about your system so we can formulate the best answer possible.

READY.
■

P.S. It's a girl!!!!

BBG, BBRTC, BBU ad
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